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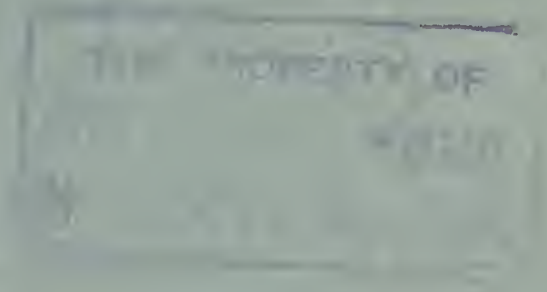
Reports - Sanitary. No. 49.

MINISTRY OF THE INTERIOR, EGYPT.

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DEPARTMENT OF PUBLIC HEALTH.

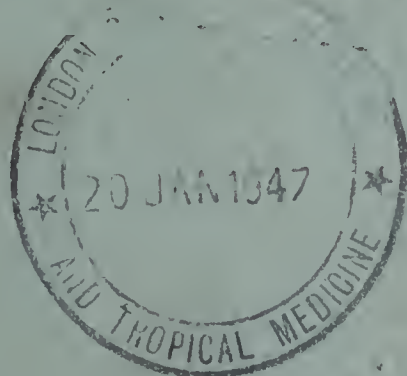
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# ANNUAL REPORT

FOR

1919.



CAIRO.

GOVERNMENT PRESS.

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To be obtained, either directly or through any Bookseller, from the GOVERNMENT PUBLICATIONS OFFICE,  
Old Ismailia Palace, Sharia Qasr el Aini, Cairo.

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1921.

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# ANNUAL REPORT

## OF THE DEPARTMENT OF PUBLIC HEALTH

### FOR THE YEAR 1919.

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#### INTRODUCTORY NOTE.

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The Department of Public Health in Egypt, although constituted as an "Administration," has remained during the last thirty-four years a dependent subdivision of the Ministry of the Interior, with the result that demands for sanitary reforms have not only not borne the same weight as proposals brought forward by more independent Administrations, but have been forced to pass through the circuitous channels of a lay Ministry before reaching the often not too sympathetic ear of the harassed Financial Adviser.

It had become evident of late years that the financial and social development of Egypt, together with the enlarged scope of the field of sanitary operations, increased responsibilities of health administration, and development of infectious disease work, hospitals, dispensaries, laboratories, and institutes, called for a modification or reorganization of the Sanitary and Medical Services which had been in vogue in 1886.

The outbreak of the great war in 1914 had the effect of postponing any scheme of reorganization, but in 1918 a Commission was assembled to consider this question and made some definite proposals to that end in a carefully prepared and weighty report.

This year, a scheme to place the present Department of Public Health on a different footing in the State hierarchy has been prepared for the consideration of H.E. the High Commissioner and of the Council of Ministers, and there is little doubt but that a change and improvement in the status and constitution of the public health administration in Egypt will be brought about in the near future.

The political excitement in the spring, culminating in demonstrations, disturbances, and strikes, resulted in a serious set-back to public health work in 1919. Owing to the desertion of non-technical staff and difficulty of supply, isolation hospitals and camps and infectious disease treatment centres had of necessity to be closed down, so that isolated foci of infection in out-districts and villages, usually easily dealt with, could not be taken in hand and were forcibly left to smoulder and to flare up subsequently in epidemic virulence. Not only the lower-grade personnel quitted their posts and work at out-stations, but even the clerical staffs at Mudîrîya towns and headquarters became so infected with the general excitement that it is to be feared statistical tables and figures suffered and will fail to give reliable statements of work in the different Sections and Departments of the Administration.

Although the great majority of the Egyptian medical staff participated in the national movement and aspirations, to their credit be it said that their sense of public duty, respect for humanitarian principles, and for professional ethics, led them to report their assurance of the continuity of service at hospitals, dispensaries, laboratories, and Public Health offices, at a moment when practically every other branch of the Service had stopped work as a sign of public protest.

The Deputy Director-General, recalled from military service at the end of November 1918, was definitely appointed Director-General early in 1919, and Dr. J. Ferguson Lees,



Medical Officer of Health, Cairo, was promoted to the post of Deputy Director-General, Dr. P. G. S. Williams succeeding him in the important post at Cairo.

Successive Directors-General and sanitary authorities in Egypt have so frequently and recurrently dwelt on the necessity for sanitary reform and reorganization that it would seem like flogging a dead horse to make further reference to the subject were it not that at last a rift in the cloud of apathy and indifference is showing, which, it is to be hoped, will spread and permit of sufficient illumination to allow the arguments and requirements of the Department of Public Health to stand out clearly for judgment and fair consideration. A short recapitulation of the demands that have been made includes :—

(1) The raising of the status of the Department by making it either a Ministry or placing it as the most important division under an Under-Secretary in the Ministry of the Interior.

(2) Co-ordination of all State Medical Services under one control.

(3) Increase of efficient personnel, to ensure inspection.

(4) Better pay for Government Medical Officers, whose whole-time services will be required, no private practice being allowed, thus opening up a career for Medical Officers of Health as apart from medical practitioners.

(5) Better registration of vital statistics : births, deaths, and infectious diseases.

(6) Establishment of a Public Health and Consultative Board.

(7) Linking of the Quarantine Service to the Epidemic Section of the Department of Public Health.

(8) Establishment of post-graduate courses in hygiene and bacteriology, ophthalmology, lunacy, medico-legal work, meat inspection, food adulteration, etc.

(9) Development of maternity and children's welfare centres.

(10) Increase of schools for nurses and midwives.

(11) Erection of infectious diseases hospitals or hutments in every Markaz.

(12) Control of *abattoirs* and slaughtering.

The signs that at long last a sympathetic hearing of these wants is to be obtained lies in the fact that :—

Improved status is promised.

The Board of Health has been established.

Preferential consideration by the Cadre Commission as regards pay of doctors is promised.

The reorganization of the Medical School, with increased output of doctors, has been undertaken.

The importance of dispensaries and *Dayas* schools has been recognized and new child welfare centres will be opened.

The serious study of a scheme for local government is ~~in hand~~ in hand.

The utmost apathy concerning the sanitation and conservancy of villages continues to exist amongst the people, but progress is being made, thanks largely to the efforts of the Municipalities and Local Commissions Section of the Ministry of the Interior, in the gradual installation of water supplies to the different towns and villages.

It is evident that the Central Treasury cannot bear the expense of even the simplest and most elementary measures that could be undertaken for the sanitary improvement of the conditions pertaining in Egyptian villages. Such improvement must be carried out by local effort. Dr. P. G. S. Williams shows this clearly in a paper prepared for the Public Health Commission above referred to, in which he enumerates essential requirements as :—

(1) Sweeping and scavenging and watering of streets.

(2) Provision of public latrines.

(3) Disposal of garbage and excreta.

(4) Provision of pure drinking water supply.

(5) The filling in of *birkas* and borrow pits.

There are 3,600 odd villages in Egypt. Taking No. 1 of the above enumeration and supposing that one *rais* and one sweeper only were appointed and paid by Government for scavenging work, at present rates of pay these men's wages would be, at least, *rais*



P.T. 12 daily and sweeper P.T. 8 daily, *i.e.* L.E. 72 yearly, making L.E.  $72 \times 3,600 =$  L.E. 259,200 annual cost, which would not include the equipment and material, such as brushes, baskets, barrows, handcarts, water-carriers, etc. Such a small staff would, of course, be inadequate for hundreds of places, for there are nearly 1,400 villages with a population of between 2,000 and 5,000 people, 350 villages with populations between 5,000 and 10,000, and 41 villages with populations between 10,000 and 20,000.

It is unnecessary to labour the point to show the inability of a Central Government Treasury to meet even primary sanitary needs in villages.

The sole solution is the setting up of a form of local government with local taxation and statutory obligation to undertake sanitation under the guidance and control of the Public Health authority.

Fortunately, Egypt has not only suffered less than other countries during the period of the war, but has, by her geographical position and by her agricultural products, had the opportunity of amassing riches in dealing with the armies stationed in or passing through her territory during that period, so that it is to be expected that a considerable sum will be available and will be applied to the need of sanitary improvement.

The budgetary proposals put forward by the Department for 1919–1920 have been cut down to the narrowest limits in the expectation that the old organization of 1886, which had become effete and, if continued, presented little opportunity for development and improvement in a modern health organization, will give place to a complete change of status and power in the State.

The comparative budgetary figures for the last three years may be of interest :—

										L.E.
Financial year	1918–1919	...	...	...	...	...	...	...	...	527,205
„	„	1919–1920	...	...	...	...	...	...	...	674,626
„	„	1920–1921	...	...	...	...	...	...	...	720,425

The figures for 1920–1921 are, of course, estimated. The total budget of the Administration would have appeared much larger but for the fact that sums amounting to over L.E. 80,000 for the Scavenging and Watering Service of Cairo, and the upkeep, etc., of all buildings have been transferred to the budget of the Ministry of Public Works.

The Board of Health, which was set up by legal enactment during the year, is composed of :—

- Director-General.
- Deputy Director-General.
- Director, Public Health Laboratories.
- Director, Section I (General Sanitation).
- Director, Section II (General Hospitals).
- Director, Section III (Ophthalmic).
- Director, Section IV (Epidemics).
- Medical Officer of Health, Cairo City.

with power to call in or co-opt attending members, native and European, as occasion requires. Egyptian members of the staff are always present at Board meetings. All questions of public health policy, proposals for new laws and decrees, research questions, campaign plans against particular diseases, etc., are discussed.

The Central Medical Commission, with its branches in London and Paris, and the Egyptian provinces, was re-transferred from the Ministry of Finance to the Department of Public Health.

During the year, the Scavenging and Watering Service of the City of Cairo was detached from the Department of Public Health and handed over to the Ministry of Public Works with the idea that the Department responsible for making and repairing the roads, etc., was best qualified to attend to the cleaning and watering of them. It is, however, part of the duty of the Medical Officer of the District concerned to keep an eye on the work and report if not satisfactorily done.

# WATER SUPPLIES AND DRAINAGE.

## Water Supplies.

The following table shows the various water supply systems in existence throughout the country :—

TOWN.	Type of Installation.	Source of Supply.	Approximate Output in Cubic Metres per Day.
<i>Filtered Water Supplies :—</i>			
Cairo ... ..	Jewell ... ..	River Nile ... ..	60,000
Giza ... ..	Slow sand ... ..	" ... ..	1,740
Me'âdi ... ..	Mechanical ... ..	" ... ..	250
Alexandria ... ..	Jewell ... ..	Canal ... ..	50,000
Port Said ... ..	Puech-Chabal ... ..	" ... ..	6,000
Suez ... ..	" ... ..	" ... ..	2,800
Ismailia ... ..	" ... ..	" ... ..	2,000
Mansûra ... ..	Jewell ... ..	" ... ..	3,000
Damanhûr ... ..	" ... ..	" ... ..	1,100
Damietta ... ..	" ... ..	" ... ..	1,100
Zagazig ... ..	" ... ..	" ... ..	2,000
Benha ... ..	" ... ..	" ... ..	700
Beni Suef ... ..	" ... ..	River Nile ... ..	1,000
<i>Well Water Supplies :—</i>			
Zeitun ... ..	—	Wells ... ..	2,500
Heliopolis ... ..	—	" ... ..	2,000
Asyût ... ..	—	" ... ..	2,500
Tanta ... ..	—	" ... ..	3,000
Minûf ... ..	—	" ... ..	400
Kafr el Zaiyât ... ..	—	" ... ..	260
Luxor ... ..	—	" ... ..	360
Tahta ... ..	—	" ... ..	450
Zifta ... ..	—	Three stations, two from Nile and one from artesian well.	360
Mît Ghamr ... ..	—	Wells ... ..	360
<i>Unfiltered Water Supplies :—</i>			
Aswân ... ..	—	River Nile ... ..	850
Qena ... ..	—	" ... ..	760
Girga ... ..	—	" ... ..	450
Sohâg ... ..	—	" ... ..	340
Manfalût ... ..	—	Well (artesian) and canal ... ..	300
Mellâwi ... ..	—	Canal ... ..	265
Minya ... ..	—	" ... ..	1,000
Faiyûm ... ..	—	" ... ..	400
Helwân ... ..	—	River Nile ... ..	1,220
Bilbeis ... ..	—	Canal ... ..	250
Shibîn el Kôm ... ..	—	" ... ..	300
Rosetta ... ..	—	River until river is sudded, then storage water only.	130
Idfu ... ..	—	River Nile ... ..	150
Akhmîm ... ..	—	" ... ..	—
Tala ... ..	—	Canal ... ..	40
Biba ... ..	—	Canal and artesian well ... ..	40
Mehalla el Kobra ... ..	—	Canal ... ..	150
Manzala ... ..	—	Reservoir holding 12,500 cubic metres of unfiltered canal water and a small engine with 4-inch pump.	—



### *Drainage.*

*Cairo.*—The Disposal Works and Sewage Farm were completed at the end of 1914. Since then a gradual scheme has been worked out extending the system of sewerage to the various quarters of the city. All the public buildings and a very large number of private houses have now been connected. The connections are being pushed on as rapidly as the supply of material will admit.

*Port Said.*—The Disposal Works and Sewage Farm were completed in 1917. The connections of all public buildings and a good many private houses are finished, but lately it is reported that there has been a falling off in the demands for connection. A drainage law making connection compulsory is badly needed at Port Said.

*Suez.*—A scheme for the drainage of the town has been approved and the necessary financial grant sanctioned. The contracts for the work are at present being placed.

The scheme consists of liquefying tanks and streaming filters with disposal of the effluent on a sewage farm.

*Mansûra.*—For this town also a drainage scheme has been approved and the necessary credits granted. The contracts for the work are being put up to tender at present. The scheme is similar to that of Suez.

*Drainage Law.*—A drainage law has been drafted by representatives of the Department of Public Health and of the Ministry of Public Works. This law makes house connections compulsory in all towns possessing a public drainage system. The law is ready for promulgation, but has been purposely held up owing to the fact that the Ministry of Public Works report that there is such a shortage of the necessary materials in the country at present that it could not be put in force.

The inspection and control of dangerous and noxious trades has been facilitated by the publication in book form of the conditions to be laid down by licensing bodies for different types of establishments. This book has been found to be of great help to the medical, police, and other authorities whose duty it is to deal with these trades.

Registers in all Health Offices of districts and provinces regarding the particulars of licensed establishments have also been instituted, and *Mo'âwens* (supervisors) appointed to inspect them; it is hoped this extra control will have the effect of raising the standard of cleanliness and general hygienic efficiency.

Steady progress has been made with the work of modernization and repair of the ablutionary and latrine accommodation in both public and private mosques. At the end of the year, 231 mosque latrines, etc., were under repair, and the number closed on account of not coming up to the requirements was 254.

During 1919, a total of twenty-six *birkas* were filled in, representing an area of nearly five *jeddâns*.

### GENERAL HOSPITALS.

The number of Government hospitals remains the same as last year: twenty-four.

As above noted, the hospital service was considerably interfered with owing to the circumstances which arose in the early part of the year.

The original building programme for general hospitals will be completed with the construction of modern hospitals at Isna and Damietta. The sites, plans, etc., are now ready, and it is expected that the work will be commenced on both of them early in 1920.

The rickety structural condition of the Qasr el 'Aini Hospital, the impossibility of its maintenance in an effective state of repair, even by large expenditure, and the folly of such expenditure, have formed the subject of reports, engineering and medical, for the last twenty years. The distinguished delegates from the London Royal Colleges of Surgeons and Physicians, who have come to Egypt as visitors for the examining Board in England, have for many years been unanimous in their condemnation of a main teaching hospital which fulfils few or none of the essentials of a modern hospital, and which, by its inadequate spacing and equipment, is no longer suitable for affording a thorough medical and surgical education. Financial considerations have until now precluded the rebuilding of a suitable



institution, but at last a move has been made, a credit has been opened, a committee of practical men medical, engineering, and financial, has been appointed, has selected a site, and plans for a modern hospital of 1,200 beds are to be put to open competition by architects of renown and with experience in modern hospital construction.

The erection of this new hospital will allow of a great extension of the School of Medicine, and of the opening of a Dental School so badly needed in Egypt, together with an enlargement of the School of Pharmacy.

Messrs. Thos. Cook & Son have generously offered to present their hospital at Luxor—freehold site, building, and equipment—to the Government on certain conditions of upkeep, etc. This hospital, when repaired and opened, will serve the needs of a large district with a population of some 50,000 people.

The time has almost arrived when the provision of further hospital accommodation cannot reasonably be expected from Central Government, but must be met by voluntary subscription and local effort, and it is to be hoped that the Provincial Councils will in future endeavour to make such provision.

War and post-war conditions have caused a considerable increase in expenditure on the upkeep of hospitals; the sum spent this year was L.E. 185,142, as against L.E. 166,218 in 1918, the cost per bed being L.E. 39·883 milliemes in 1919, as against L.E. 36·588 milliemes in 1918. The utmost economy compatible with efficiency has been exercised.

The figures of the cost per patient per day for the years 1915 to 1919, are as follows :—

								Milliemes.
1915	...	...	...	...	...	...	...	134
1916	...	...	...	...	...	...	...	130
1917	...	...	...	...	...	...	...	131
1918	...	...	...	...	...	...	...	149
1919	...	...	...	...	...	...	...	179

The total receipts from hospitals show a decrease of L.E. 5,180 (L.E. 18,079 in 1919 against L.E. 23,278 in 1918). The reduction is due to the diminished number of military patients and to the interruption of communications owing to the political disturbances in the spring.

An increase of the medical staff of the hospitals at Benha, Sohâg, and Qena has been found necessary, and a second medical officer has been appointed at these hospitals. It is intended to make a similar addition to the staffs of the hospitals which continue to be worked by one medical officer. These are Damietta, Aswân, and Isna.

English matrons will also be provided for the hospitals as soon as quarters can be built for them.

#### OPHTHALMIC HOSPITALS.

The attendances at the ophthalmic hospitals continue to be most satisfactory and the work carried out by the eighteen hospitals is highly appreciated by the people. Eighteen hospitals existed at the end of 1919, and, of that number, fourteen have been built by public subscription or out of funds provided by the Provincial Councils. Five of the hospitals are travelling camps, which are dotted about the country and remain *in situ* for five or six months at a time, affording ophthalmic relief to quite an extended zone around them.

The annual cost of the whole system of ophthalmic hospitals, including expenses of administration, was L.E. 36,107 in 1919; of this sum, the Provincial Councils provided L.E. 3,560 for the maintenance of five hospitals.

The two chief diseases dealt with are trachoma and acute contagious ophthalmia, the latter being the chief cause of blindness in Egypt. More than 12,000 of the persons who sought treatment at the hospitals in 1919 were blind in one or both eyes, *i.e.* fifteen per cent of new patients.

It is interesting to note that the importance of early treatment for children attacked by ophthalmia is now being recognized by the people, who readily bring their children to the hospital for treatment.

A large central 100-bedded ophthalmic hospital for Cairo is sorely needed, for though several ophthalmic clinics, out-patient sections, and dispensaries exist, the Director of the Ophthalmic Section is insistent upon the need for a large central institution to deal with the vast number of patients demanding operation. Moreover, such an institution would provide the best facilities for post-graduate instruction.



## CHILDREN'S DISPENSARIES.

The Children's Dispensaries or Child's Welfare Bureaux started in 1913, and since gradually extended until at the end of 1918 they numbered thirteen, were all working at the beginning of 1919 ; but in March, owing to political conditions, only those at Port Said, Zagazig, Damanhûr, and Wasta remained open, as it was not considered advisable to leave the matrons and nurses in the outlying districts.

A disposition on the part of certain Provincial Councils to close down these children's dispensaries has been recently evinced, generally on the plea of insufficient funds. This intention has been met by general opposition on the part of the public as indicated by various protests in the native and European press. It is obvious that the closure of these institutions in a country where the infant mortality is so high would be a retrograde step, and the Provincial Councils concerned were officially expostulated with by the Central Government pointing this out and emphasizing the unfavourable light in which they would appear, *vis-a-vis* other countries, where this work, far from being reduced, is being extended and pressed forward with the greatest vigour. Stress was also laid on the educational force exercised by these institutions on the mothers and children attending them.

The Councils in question do not appear to appreciate the fact that these institutions are teaching centres for the poorest classes upon whom the influence exercised through the sick children and their mothers is extremely valuable. There also appears to be a desire to convert the dispensaries into hospitals in the charge of Egyptian doctors and to introduce the system of collecting a small fee from each patient in the same way as is done at the out-patient sections of the general hospitals. This innovation, if introduced, would entirely alter the function of the dispensaries and convert them from Infant Welfare Centres for teaching the clothing, feeding, and general caring of children, into out-patient clinics. It should further be pointed out that this work as at present carried on is essentially women's work, and should continue to be so if the maximum amount of benefit is to be obtained. It is not improbable that the presence of a male doctor in these places would have the effect of frightening away a large number of mothers who now unhesitatingly accompany their children and thus obtain valuable lessons in cleanliness, personal hygiene, etc.

The seven *Dayas* Schools and Maternity Homes, which were working well at the beginning of the year, had to be closed on account of the March disturbances, so that only an average of 163 working days was obtained. Nevertheless, a total of 2,223 cases were attended, a larger number than in any previous year.

Fifty-nine *dayas* were trained and received the higher certificate as described on page 41.

21,209 visits were paid by matrons and pupils to patients in their own homes, but a great deal of night work was necessarily curtailed on account of the disturbed state of the towns.

By a method of selection of candidates a more receptive type of pupil has been found.

Great help could be given to the work of the schools by the formation of Ladies Benevolent Societies in each province, as the cases of real distress met with by the matrons are numerous, and very little can be done for them other than professional attendance. The gift or loan of suitable clothing at these times would be a most valuable aid in treatment, besides helping in many other ways, and bring these institutions more into line with the Infant Welfare Centres in America and Europe.

The hope expressed in the 1918 report that the Maternity Home and Nurses Training School in Cairo might be reopened without delay has not yet been realized. It is an undoubted fact that until a better class of midwives and nurses is available the high infantile mortality for which Egypt is notorious will continue.

At present, three classes of midwives exist in Egypt :—

(1) Women in possession of a midwifery diploma which can be recognized as such by the Health Authority.

(2) The *Hakîma*.

(3) The *Daya*.

The *Hakîma*, or, as she is more properly styled, *qabîla*, holds a licence to practise midwifery granted by the Egyptian Government after she has passed a satisfactory examination at the School of Medicine at Qasr el 'Aini. Although termed a *hakîma* she



cannot be considered in any way as a doctor, nor is she entitled, under the Pharmacy Law, to prescribe medicines containing poisons.

The *daya*, who is chosen from a lower grade of society, undergoes no practical training, but only a short three weeks' course of theoretical training at a Government hospital, and if successful in passing a somewhat perfunctory examination is given a permit to practise midwifery. Thereafter, though ignorant, dirty, and even blind or deaf, she remains a *daya* until the end of her days, no legal powers existing at present to withdraw her licence to practise. These women are a constant means of spreading puerperal fever and death amongst the poorer classes, and a better stamp of midwife is urgently required.

A beginning has been made in this line by the establishment of midwifery schools for *dayas* under the Provincial Councils, but staffed from England by experienced matrons. The *dayas* attending these schools are picked women and pass a course of midwifery under the instruction of the matron, nor can they obtain the special certificate granted by these schools until they have themselves conducted under the supervision of the matron the prescribed number of labour cases.

It is necessary that the power to withdraw the permit should be provided, and it is proposed to do this in the Midwives Act which is contemplated.

### INFECTIOUS DISEASES.

With regard to epidemic diseases in 1919, the chief features to be noted are :—

- (1) The large incidence of smallpox.
- (2) A notable decrease in the incidence of typhus and relapsing fever cases as compared with 1916, 1917, and 1918.
- (3) The persistence of the influenza epidemic of 1918 into the first two months of 1919.
- (4) A severe and fatal epidemic of malaria at Markaz El Derr, Aswân Province.
- (5) An increase of the death-rate of most of the important infectious diseases caused presumably by non-reporting of cases due to the disturbed internal conditions in the spring and early summer.

In this respect it may be noted that the death-rate of typhus fever cases was 32·8 per cent in 1919, compared with 26·4 per cent in 1918. The number of smallpox cases recorded in 1919 is the largest during the last ten years. A vaccination campaign was at once begun ; most unfortunately it had to be stopped owing to the revolution, but was reopened as soon as possible. The number of persons revaccinated during the year was 2,500,000. The campaign is still being carried out, and at the time of writing this report (May 1920) over six million people have been vaccinated. In the course of the work many concealed cases of disease were discovered in villages by the vaccinating gangs. The total number of cases of smallpox found and reported was 7,895 ; of this number 1,926 died, giving a mortality rate of 24·39 per cent.

*Malaria.*—A severe and fatal epidemic of malaria occurred in Markaz El Derr—the most southerly Markaz of Egypt—inhabited by a poor population, living on the narrow strips of cultivation on each side of the Nile. A full description of the measures taken to deal with it will be found on page 45.

The various Sub-Committees appointed by the Anti-Malaria Commission continued their work, though considerable delay on account of the revolution in the spring was reported. The Commission had at its disposal the sum of L.E. 21,000 for the year, and this sum was spent as follows :—

	L.E.
In Cairo and District ... ..	5,000
In the Canal Zone ... ..	1,739
In the principal provincial towns ... ..	10,161
In the Oases ... ..	2,100

A sum of L.E. 1,000 was set aside for a survey of the mosquitoes of Egypt. The work was practically completed at the end of the year, and the results will be published by the Commission.

*Influenza.*—The epidemic which appeared in the country in May 1918 lasted until February 1919. The peak of the curve was reached in the first week of December 1918, and the disease had practically disappeared by the end of February this year.



In February 1919 it was made compulsory by law to notify to this Administration cases of influenza. This was advised on account of the possibility of typhus fever being diagnosed as influenza in order to escape the obligation to notify, with the natural consequences of disinfection, isolation, etc.

*Plague.*—The total number of cases reported was 877, as compared with 357 in 1918. The number of deaths was 473, showing a mortality-rate of 53·9 per cent, as compared with 153 and a death-rate of 42·8 per cent in 1918. Of the 877 cases occurring in 1919, 64 were septicæmic, 76 pneumonic, and the rest bubonic.

*Anthrax.*—The Department is in communication with the British authorities in connection with the installation of a disinfecting station to deal with the disinfection of wool from the Sudan and Egypt prior to its exportation abroad. A Committee has been set up in England to study this question, and when it has completed its experiments regarding the best method of procedure for wool disinfection, it is proposed to adopt the same system in Egypt.

Cases of anthrax having occurred amongst British soldiers in August, due it was supposed to the use of shaving brushes, investigations showed that these brushes had arrived from Kobe, Japan. The suspected consignment was traced, and bacteriological examination proved the presence of anthrax bacilli. The consignment was destroyed. The following measures were taken :—

(1) The Residency was requested to ask the Japanese Government to secure the disinfection of hair used in the manufacture of shaving brushes before export.

(2) The Customs Administration was requested to hold up all consignments containing shaving brushes in Egyptian ports pending bacteriological examination.

(3) The public was informed as to the danger by the publication in the press of notices explaining the method of disinfecting newly purchased shaving brushes.

(4) A law forbidding the admission into this country of all shaving brushes unaccompanied by a certificate of disinfection is to be promulgated.

Of thirteen consignments examined in 1919, five were found to contain anthrax bacilli : all came from Japan. A similar infection is reported from England from the same source.

Prior to the war the trade in cheap shaving brushes was practically a German monopoly, and in that country adequate precautions were taken to disinfect the horsehair from which these brushes were made. Hair used in the brushes made in Japan comes, it is understood, chiefly from Chinese sources : a type of hair notoriously known to be infected with anthrax.

*Ankylostomiasis and Bilharziasis.*—Steps have been taken to reopen the campaign against these two diseases, which cause so much suffering and loss of efficiency amongst the population of Egypt, especially the *fellahîn*. An Anglo-Egyptian Committee has the matter in hand and is drawing up a comprehensive scheme including the organization of an experimental district in the Province of Qalyûbiya (Lower Egypt) which is considered to be a suitable field, in order to test the practicability of various proposals put forward.

This opportunity is taken of expressing the appreciation of the Egyptian Government and the health authorities for the very substantial assistance which the Rockefeller Foundation, International Health Commission, afforded in the past for the combating of these diseases, and it is hoped that now the work is to be again undertaken, further assistance will be afforded.

*Venereal Diseases.*—Under the system at present in vogue for controlling venereal diseases in Egypt, 171,243 examinations of prostitutes were carried out throughout the country, with the result that 6,192 women were found to be infected either with syphilis or gonorrhœa. Of course it is unnecessary to state that these figures do not by any means represent the amount of venereal disease existing in the country, as they only refer to the notorious class of *femmes publiques* registered by the police.

Of late years there has been, even in those continental countries where the system originated, a movement to reconsider the efficacy of the medical inspection of prostitutes, or card system, with compulsory hospitalization of such as were found to be diseased, and to adopt a more civilized system, which consists briefly in propaganda, prophylaxis, and gratuitous treatment centres run on confidential lines for the benefit of any person contracting venereal disease. Such treatment centres have, with the help of judicious propaganda, been established, and are working with marked success in many places.



It is hoped to start on these lines in Egypt, and a Committee is at present engaged in working out the details of the scheme.

#### PILGRIMAGE.

Owing largely to the continuance of war conditions, coupled with the difficulty in procuring shipping, the total pilgrimage to the Hedjaz comprised less than 1,000 people. Of these, 444 were ordinary pilgrims and 420 were members of the Mahmal escort and staff. All these pilgrims were inoculated against cholera. No deaths occurred, and on return to Suez only four pilgrims were found to be ill. The route of the pilgrimage was curtailed: the visit to Medina was not made.

Now that hostilities have ceased it becomes of interest to ascertain whether or not it might be possible to initiate measures for an improved water supply, conservancy, and hospital accommodation for pilgrims at Mecca. The unenviable hygienic reputation acquired by Mecca and the Hedjaz has been only too well earned. A cholera infection in the Hedjaz and holy places of Arabia spreads like wildfire, and is an undoubted source of anxiety to the sanitary authorities of all countries who may have furnished quota of pilgrims proceeding to or returning from Mecca, etc.

It is improbable that the King of the Hedjaz would be able to undertake anything like a full sanitary programme, but leaving aside for the moment the question of sewage and rubbish disposal and hospital accommodation at Mecca, Muna and Medina, and the ports, it does not appear to be impossible to hope that His Majesty may be induced to take up the question of the provision of a pure water supply to Mecca at any rate. Such a great sanitary boon would establish his renown through Islam and the cost would be cheerfully borne by Moslems throughout the world or by intending pilgrims from Egypt, India, and East Indian Islands.

To undertake the provision of a pure water supply for Mecca, a small Commission of Mohammedan technical experts can easily be found in Egypt who, with the King's permission, would proceed to Mecca to determine certain particulars and factors:—

(1) A map of the town of Mecca showing the contours and levels of the more important points, the various wells in the town and the drainage system—such as it is—being indicated as far as possible.

(2) A map of the course of the present two aqueducts leading from the collecting grounds or springs to the town, with contours and levels.

(3) A description of the sources of the supply (*i.e.* whether springs or catchment areas).

(4) Details of the present aqueduct, with its annexed storage reservoirs, etc.

(5) An estimate of the present yields based on definite measurements, taken over a reasonable period.

(6) Analyses of samples of water collected at the various sources. These should, if possible, be repeated, so as to ascertain if the character of the water undergoes any marked change with the different seasons.

For the purpose of carrying out the above work the Commission should comprise:—

Two doctors (one a bacteriologist).

Two engineers (one a surveyor and the other an irrigation engineer).

One geologist.

In the meantime it may be possible to procure from the Turkish authorities reasonably accurate maps of the town and surrounding country.

The reports of medical officers of the Department of Public Health who have proceeded on duty to the Hedjaz are unanimous in pointing out the grave danger of the present water supply.

Two separate sources are indicated: one from the north-east of Mecca led, it is said, from the Gebel Kara past Noman, Arafat, and Muna, to the Holy City, a distance of over fifty miles, is known as the Zobeida aqueduct. The other, the Zaafaran aqueduct, is also about fifty miles in length, and leads water to the town from the 'Ain Henein situated to the north-west. Both aqueducts have openings at intervals, and are most easily polluted anywhere throughout their courses. The openings into the aqueducts at intervals of from ten to twenty metres were made to enable water carriers and pilgrims to draw water from the stream, but pilgrims now bathe at the very edge of the openings and even enter the aqueduct to have a thorough wash. Moreover, for convenience of ablution they defæcate



near by and thus, being barefooted, directly contaminate the supply. Similar pollution takes place at Arafat and Muna.

The actual conditions pertaining at the holy Zamzam well in the great Mosque at Mecca are described by one of the Department's medical officers who made the pilgrimage in 1919. The well is situated in the *Haram*, in the vicinity of the *Qa'aba*. During the pilgrim season there is always a dense crowd anxious to procure as much of the water as possible. Two or three men are told off to draw the water, and their task, even if remunerative, is heavy. Pilgrims are not content with filling their water bottles or pots, but strive to obtain sufficient to bathe themselves with the holy water which, being poured over their bodies, falls to the ground and flows back to the well, fouled and contaminated in every conceivable manner.

It is interesting to note that in the past Egyptians have been largely instrumental if not in installing, at any rate in keeping in repair, the Mecca water supplies. As early as the year 245 A.H. the aqueducts were repaired by Abdulla Ibn el Moatasem. In 728, Mohammad Ibn Kalawoon constructed a well in Mecca, and in 745 another Egyptian ruler constructed a well on the way to Muna. Further repairs were subsequently made during the reign of Al Moayad, and later still by Kayed Bey and El Ghouri. Under the Turkish regime the whole system fell into a state of great disrepair, and in 969, Fatma Hanem, the Sultan's daughter, commissioned an Egyptian Emir (Ibrahim) to effect extensive repairs, providing L.E. 50,000 for the purpose. Ibrahim took over to Mecca a number of Egyptian engineers, masons, carpenters, etc., for the work. Later on Mohanmed Aly Pasha repaired the water system.

It will thus be seen how largely Egyptian enterprise and money have bulked in the past in connection with the Mecca water supply.

No doubt the pious work of their ancestors will be gladly emulated by rich Egyptians of the present day, especially when it is understood that the provision of a safe water supply to Mecca would be a means for the removal of many irksome quarantine restrictions enforced to-day on account of the ever-existing danger of cholera infection to the mass of devout Moslems who annually visit the Holy Places in the exercise of their religion.

#### PASSENGER CONTROL.

Ordinary passenger traffic throughout 1919 continued to be limited. The same system of passenger control was enforced as in past years. The results were that in Cairo 86 per cent of arrivals were traced and medically observed, at Alexandria 92 per cent, at Port Said 99 per cent, and in the interior of the country 97 per cent. Of the total of 4,961 arrivals, only 161 passengers were not traced, thus the percentage of the total arrivals traced was over 96 per cent.

#### PUBLIC HEALTH LABORATORIES.

The extension of these laboratories—so urgently required for the last few years—was begun in the middle of August, and it is expected that the work will be finished by the end of 1920.

The whole question of the arrangement and condition of Government laboratories is at present being studied by a small Government Commission.

The military authorities have now arranged to undertake their own bacteriological work, so that with the exception of the performance of a number of Wassermann reactions, the supply of certain chemicals, bacterial cultures, sera, etc., the laboratories will be relieved of a great deal of extra strain placed upon them by war conditions.

It is to be observed that with the exception of the City of Alexandria the bacteriological diagnosis for the whole of Egypt is centralized in Cairo. This is disadvantageous as regards certain bacteriological diagnoses, such as those required for the control of plague, typhus, etc., and also as regards certain chemical analyses, ~~and~~ <sup>and</sup> those of distant local water supplies, aerated water and ice, on account of the time taken for the specimens to reach the Central Laboratory in Cairo. It is therefore proposed to extend the facilities for bacteriological diagnosis to certain towns in the provinces, such as Suez, Port Said, and Asyût. Bacteriologists are being trained at the Central Laboratory to staff these provincial laboratories and the necessary funds for their installation and equipment are being asked for.



At the request of the Arab Bureau a small bacteriological staff and equipment was sent to Jedda for the diagnosis of plague and cholera there during the pilgrimage.

The Weil-Felix reaction having been found positive for some seventy per cent of typhus fever cases at the Fever Hospital, 'Abbâsiya, is now carried out as a routine practice for aid in the diagnosis of that disease.

Assistance has been given to the Ministry of Agriculture in testing the strength of cattle plague serum and the examination of blood in connection with the Serum Institute at 'Abbâsiya.

*Water Service.*—The regular inspection of the drinking water supplies throughout the country has, unfortunately, not yet been effected. Regular bacteriological and chemical analyses of the Cairo and Alexandria water supplies are, however, being carried out, and outlying districts are visited and the supplies analyzed if there is reason to suspect that there is any need for it.

Aerated waters and ice factories are controlled so far as is possible with the existing staff.

*Vaccine Institute.*—The amount of vaccine lymph issued in 1919 was 5,645,020 doses.

A campaign of general vaccination having been decided on by the Department, demands for lymph were made on the Vaccine Institute far in excess of its normal annual output of some 2,000,000 doses; in fact the issue of a million doses a month for a period of six months was called for, besides extra demands for the British Army, the Sudan Government, Syria, Cyprus, etc., which are constantly coming in. In order to meet the emergency, temporary stabling for calves had to be erected, extra staff taken on, and suitable buffalo calves procured in spite of the difficulty as regards supply. The tubes and phials necessary for the issue of the vaccine in such large quantities were not available in the country, nor could they be procured at such short notice, so that the distribution had to be effected by means of such small medicine bottles as were obtainable. It also became evident that cold storage accommodation must form part of the Vaccine Institute. The storage of sera and vaccines in extern lay establishments for cold storage is unsatisfactory, and other arrangements must be provided without delay.

The manufacture, centrifugalization, bottling, and issue of cattle plague serum, which was formerly existing at the Central Laboratory, has now been transferred to the Serum Institute at 'Abbâsiya and the work undertaken by the Ministry of Agriculture.

*Antirabic Institute.*—1,010 persons were treated at the Institute. Full details of the work done and the statistical tables will be found on page 66.

#### CENTRAL MEDICAL COMMISSION.

The work of the Central Medical Commission, which deals with the examination of candidates for admission to Government service, for granting of sick leave, and for invaliding from the service, steadily increases. The number of examinations done has increased from 4,684 in 1915 to 9,028 in 1919. The Branch or Provincial Medical Commissions dealt with 9,765 medical certificates.

An extension of the accommodation for the Cairo Central Medical Commission is required and should be undertaken next year.

#### PHARMACIES.

During the year 1919, authorizations to practise their trade were given to nineteen pharmacists, of whom only two were holders of diplomas from the Qasr-el 'Aini Medical School. There is a considerable shortage of qualified pharmacists; there are at present seven such vacant posts in the Government, and it is impossible to find candidates to fill them.

The total number of pharmacists at the end of 1919 was 374; of these 152 are in Cairo, 78 are in Alexandria, and 144 are distributed throughout the other parts of the provinces.

Attention is drawn to the traffic and smuggling of narcotic drugs, which the law at present appears to be powerless to stop. The control exercised by this Administration in conjunction with the Customs Administration has merely resulted in a decrease of imports used in legitimate medicine; but the illicit traffic still exists to a very large extent.

Although a decree was published in 1915 to prohibit the cultivation of poppies, a considerable amount of opium is regularly cultivated as the cultivators openly apply for permission to transport it to the towns for disposal. The penalties inflicted by the Courts on offenders against the law on narcotics and soporifics are ridiculously inadequate. One example will serve to prove this assertion. The Inspectorate of Pharmacies proved conclusively that a certain pharmacist in Cairo had disposed of a considerable quantity of cocaine and morphine illegally and had attempted to justify his action by altering and forging doctors' prescriptions by converting grains into grammes and by altering the figure 1 into 10. After a lapse of nearly two years a judgment of P.T. 100 fine and costs was obtained against the delinquent.

A complete re-drafting of the law dealing with pharmaceutical, chemical, and analytical laboratories is now in hand. Some of these laboratories constitute a danger to the public, as at present they are practising under no control, nor is there any means of guaranteeing the capability and qualifications of their owners. These laboratories perform chemical and bacteriological analyses and frequently doctors base their treatment on reports they furnish. Moreover, they constitute a danger for the reason that it is suspected that certain of them exist for the sole purpose of extracting alkaloids from crude drugs such as morphine from opium and cocaine from coca leaves for sale. Indeed this may be one of the reasons for the decrease in the importation of these drugs as above noted.

CATHCART GARNER, Colonel,  
*Director-General.*



## I.—REPORT ON SECTION I.

### General Sanitation.

#### 1.—VITAL STATISTICS.

In the report for last year, the occurrence of an excess of deaths over births was recorded, a very unusual state of affairs in Egypt. A glance at the vital statistics for 1919 shows something of a reversion to more normal conditions, though not uniformly so throughout the whole country. For example, both in Cairo and Alexandria the deaths exceeded the births during the past year. In Cairo there were 30,794 births (a rate of 40·4 per thousand) and 32,161 deaths (a rate of 42·2 per thousand). In Alexandria there were 15,684 births (a rate of 35 per thousand) and 18,198 deaths (a rate of 40·4 per thousand).

Practically all the other large centres of population showed an excess of births over deaths—in some cases very small—so that the figures for the twenty principal towns (*i.e.* fourteen provincial towns and five Governorate towns, with the addition of Ismailia) show a mean birth-rate of 40·5 per thousand and a mean death-rate of 39·9 per thousand.

The general rates for the whole country are: birth-rate, 38·0 per thousand; death-rate, 30·0 per thousand.

During the year, considerable evidence was collected, showing that the formidable increase in the prices of practically every article of food was having a very deleterious effect on the health of the population, especially the lower classes, as it was proved that the revenue of many families was quite insufficient for the purchase of an adequate supply of even the cheapest and simplest articles of food. These facts were brought to the notice of the authorities; energetic measures were taken, especially as regards the sale of flour at reasonable prices, and a great improvement in the food conditions of a large section of the population was brought about.

The usual statistical tables will be found on pages 15 and 16.

#### 2.—UNHEALTHY, INCONVENIENT, AND DANGEROUS ESTABLISHMENTS.

During the year 1919 a serious attempt was made to reorganize the work performed by the Department of Public Health under the law dealing with *Etablissements Insalubres, Incommodes ou Dangereux*.

Three steps were taken which mark a great advance in the hygienic control exercised under this law. These were: (1) the publication of a book laying down model conditions for fifty types of *établissements insalubres*; (2) the institution of registers in all the Health Offices of Markazes and Qisms in which all licensed establishments were recorded; and (3) the appointment of special inspectors to carry out routine inspections of the establishments already licensed.

The publication of the "Model Conditions" has proved a great boon to the medical officers employed in this licensing work. It shows them what the policy of the Department is as regards each type of establishment and the special points as regards each establishment on which the Department lays emphasis.

The policy of the Department may be summarized for the present as an attempt to tighten up the control over all establishments in which articles of food or drink are manufactured, stored, or sold, with the object of preventing the contamination of such articles either during manufacture or storage and of causing them to be presented to the public in such a state that they are not a danger to health.

This is being done by laying down more stringent conditions for such establishments when they are licensed and by improving the conditions already laid down for existing establishments either administratively with the consent of the proprietor or, if necessary, by Ministerial *arrêté* when the proprietor refuses to give his assistance.

The Department realizes that in many cases it is quite impossible to apply the new model conditions to old establishments already licensed without practically pulling down the old building and reconstructing it anew.



TABLE I.—ANNUAL GENERAL RETURN OF BIRTHS AND DEATHS REGISTERED DURING 1919.

GOVERNORATES AND PROVINCES.		POPULATION CALCULATED.			BIRTHS.			DEATHS.			
		Egyptians.	Foreigners.	Total.	Egyptians.	Foreigners.	Total.	Egyptians.	Foreigners.	Total.	Per Thousand.
GOVERNORATES.											
Cairo	...	689,610	71,890	761,500	30,323	489	30,812	31,367	795	32,162	42
Alexandria	...	361,400	86,800	448,200	14,498	1,202	15,700	17,135	1,066	18,201	41
Canal { Ismailia	...	5,150	2,850	8,000	1,202	76	1,278	1,884	43	1,927	241
Port Said	...	62,170	15,230	77,400	3,206	187	3,393	2,056	294	2,350	30
Damietta	...	31,420	180	31,600	1,397	5	1,402	786	1	787	25
Suez	...	27,620	4,380	32,000	1,046	120	1,166	868	80	948	30
Eastern Desert	...	40,270	230	40,500	1,197	—	1,197	1,309	—	1,309	32
Western "	...	4,030	70	4,100	496	4	500	848	3	851	}
Sinai Province	...				318	—	318	462	—	462	113
TOTAL		1,221,670	181,630	1,403,300	53,683	2,083	55,766	56,715	2,282	58,997	42
PROVINCES.											
Lower Egypt:—											
Beheira	...	900,360	2,140	902,500	30,985	13	30,998	23,820	9	23,829	26
Daqahliya	...	992,350	4,350	996,700	40,727	46	40,773	29,558	29	29,587	30
Gharbiya	...	1,662,820	6,880	1,669,700	62,897	60	62,957	51,956	52	52,008	31
Minufiya	...	1,082,430	1,670	1,084,100	41,270	11	41,281	33,331	5	33,336	32
Qalyubiya	...	533,380	1,820	535,200	20,750	4	20,774	15,512	10	15,522	29
Sharqiya	...	952,010	3,890	955,900	33,133	17	33,150	25,338	23	25,361	27
TOTAL		6,123,350	20,750	6,144,100	229,762	151	229,913	179,515	128	179,643	29
Upper Egypt:—											
Asyût	...	1,006,320	980	1,007,300	43,784	4	43,788	30,270	6	30,276	30
Aswân	...	255,640	360	256,000	7,016	4	7,020	7,165	4	7,169	28
Beni Suef	...	468,610	790	469,400	18,655	5	18,660	11,617	3	11,620	25
Faiyûm	...	512,980	2,520	515,500	21,342	5	21,347	16,190	4	16,194	31
Girga	...	883,600	400	884,000	33,661	3	33,664	19,736	2	19,738	22
Minya	...	559,180	1,220	560,400	22,981	1	22,982	17,156	5	17,161	31
Giza *	...	783,300	1,100	784,400	30,889	7	30,896	20,801	11	20,812	27
Qena	...	852,720	880	853,600	29,449	3	29,452	22,256	3	22,259	26
TOTAL		5,322,350	8,250	5,330,600	207,777	32	207,809	145,191	38	145,229	27
(GENERAL TOTAL { 1919 { 1918		12,667,370	210,630	12,878,000	491,222	2,266	493,488	381,421	2,448	383,869	30
		—	—	12,905,500	501,000	2,001	503,001	509,623	2,553	512,176	40

\* Exclusive of births which occurred in November at El Tabbîn, Markaz El Saff.

Exclusive of deaths which occurred in December at Abu El 'Abbās, Markaz El 'Ayat, Abu Ragwân El Babari.





Such a proceeding would obviously be unjust to the holders of old permits who have to a certain extent vested interests. The Medical Officers and Inspectors have been instructed on the above lines and told that the improvements must be brought about as far as possible with the consent and goodwill of the owners of the establishments.

*Registration of Etablissements Insalubres.*—The proper registration of *établissements insalubres* has long been a crying need; formerly, the Medical Officer, after laying down conditions for an establishment, had no record of it, and the result was that he could never tell how many establishments of any given kind he had in his district nor were routine inspections possible. Now all establishments are registered and an index is kept grouping similar establishments together so that a Medical Officer wishing for example to inspect dairies in his district has only to turn up this index and he finds a complete list giving the names of the proprietors and their addresses.

It is obvious that such registers will add enormously to the efficiency of the control and of the inspection work.

The instructions for the filling up of these registers were issued in Departmental Order No. 42, dated September 3, 1919, which reads as follows:—

“ New registers have just been designed for the purpose of keeping a record of *Etablissements Insalubres* (*Sahha* Division) in the Offices of the Department. The registers are of three kinds:—

“ Form No. 68 *C.Ad.*—First Class Establishments.

“ Form No. 69 *C.Ad.*—Second Class Establishments.

“ Form No. 70 *C.Ad.*—Third Class Establishments.

“ One register of each kind will be issued to every Qism, Bandar, Markaz, and Outpost Health Office. If one register proves to be insufficient for any of the three classes of establishments, further registers may be obtained from the Central Administration by requisition in the usual way.

“ All *Sahha* establishments authorized in virtue of Law No. 13 of August 28, 1904, should be entered in the new registers with the exception of:—

“ (a) Establishments whose permits have lapsed for any reason. These should be omitted.

“ (b) Third class establishments (such as brick kilns, lime kilns, etc.) to which temporary permits are given. A record of these should be kept in a separate unofficial register.

“ Establishments holding *Rokhsas*\* or *Ikhtârs*† antedating the foregoing law, which the Public Health Inspectors, Medical Officers, or *Mo'âwenîn*‡ come across in their inspections, should also be entered in the registers.

“ The information required for these new registers must be obtained from the lists of *Sahha* establishments kept in the respective Governorates, Provinces, Bandars, and Markazes.

“ Before being copied into the new registers, the establishments should be arranged in order of date.

“ Attention here is drawn to the fact that in no case should entry in the registers be made by grouping each type of establishments together. Record should as far as possible be made in order of date. The grouping of the various types of establishments should be done in the index as explained below.

“ Medical Officers are informed that the registers must be filled up within three months from the date of issue of the registers as regards establishments already licensed.

“ When all licensed establishments have been entered in the registers, these must be kept up-to-date by adding to them all other establishments as they are licensed in future. Local arrangements should be made with the Governorate, Province, Bandar, or Markaz to supply the information required for the register to the Public Health Office when a new licence is issued for a *Sahha* establishment.

“ All inspections made by the Medical Officers or by the Inspectors specially appointed for this work should be entered in the special columns provided for the purpose.

\* *Rokhsa*=Permit (Ar.).

† *Ikhtâr*=notification. Certain classes of establishments in existence when that law was promulgated were allowed to continue working if they notified the administrative authorities to that effect.

‡ *Mo'âwenîn* (pl. of *Mo'âwên*)=supervisor.



“ When the owner of an establishment is put in contravention or when a Ministerial *Arrêté* is drawn up, this information should be added in the registers.

“ As a very large number of establishments will be entered in each register, it is necessary to have a system by which reference to the various kinds of establishments will be facilitated. A simple index should therefore be arranged for each register by pasting one or two blank sheets of ruled foolscap paper at the beginning of the book. The index will consist of the description of the kind of establishment, then the serial number from the register, and the name of the proprietor in parenthesis.

The following examples will serve to illustrate what is described :—

“ *Bakers* : No. 27 (Mohammad Ahmad) ; No. 48 (Guirguis Nasr) ; No. 64 (‘Aly Hassan), and so on.

“ *Butchers* : No. 29 (Ahmad Hasan) ; No. 44 (Ibrahim Hussein), and so on.

“ By this means it will be easy to refer at any time to all the bakers, butchers, etc., in the district.

“ Public Health Inspectors and Medical Officers are instructed to personally supervise the work of the clerks in filling up these registers.

“ If any doubt arises in connection with this Order, the Central Administration should be asked for a ruling.”

*Appointment of Inspectors.*—The appointment of special Inspectors to work under the Medical Officers was also a necessity, as the Medical Officer has so much work nowadays that he has not sufficient time at his disposal to carry out routine inspections as they should be done. These Inspectors correspond very closely to the Sanitary Inspectors in England.

Thirteen posts have already been granted, and it is hoped to add to their number annually until there are altogether twenty-two of them and a Chief Inspector attached to the Central Administration to supervise their work.

Their duties were laid down by Departmental Order No. 54, dated November 9, 1919, which reads as follows :—

“ The *Mo’âwenîn* appointed for work in connection with *établissement insalubres* in the provinces have been provided for the purpose of making possible a more thorough control of the said establishments and raising the standard of their hygienic efficiency.

“ The *Mo’âwen* will work as follows :—

“ In Góvernorates : under the orders of the Medical Officer of Health.

“ In Mudîrîyas, under the general supervision of the Mudîrîya Health Inspector. If there is a Bandar Health Office in the Mudîrîya town, he should be attached to this office and work under the Bandar Medical Officer. He will be in charge of the *Etablissements Insalubres* registers of the Bandar. His work will in this case be confined to the Bandar until the Mudîrîya Inspector has assured himself that the *établissements insalubres* in the Bandar have been brought to such a high state of efficiency that the *Mo’âwen* can be detailed for inspection trips in the various towns of the Mudîrîya in addition, of course, to his routine work in the Bandar.

“ If there is no Bandar, the *Mo’âwen* will be attached to the Markaz Health Office under the Markaz Medical Officer and his inspections will be throughout the Markaz but chiefly, of course, in the Mudîrîya town. He will be in charge of the *Etablissements Insalubres* registers of the Markaz. Here again, when the establishments of this Markaz have been brought to a sufficiently high state of efficiency, the Mudîrîya Inspector can employ the *Mo’âwen* for inspection purposes in other Markazes of the Mudîrîya in addition to his routine work in his own Markaz.

“ The duties of the *Mo’âwen* comprise :—

“ 1. Inspection of *établissements insalubres* already licensed.

“ 2. Keeping up to date the *établissements insalubres* registers of the circumscription permanently allotted to him.

“ 3. Reporting the existence of any *établissements insalubres* found to be working without a licence.

“ Each *Mo’âwen* will be provided with :—

“ (a) A copy of the *Etablissements Insalubres* Law with schedule annexed.

“ (b) A copy of the book of “ Model Conditions.”



- “ (c) Duplicate book in which he will write all reports, one copy being detached and forwarded to his chief and the other remaining in the book for reference purposes.
- “ (d) A large scale map of the town, if available, on which should be marked the position of all licensed establishments.

“ 1. *Inspection of Etablissements Insalubres.*

“ On no account is the *Mo'âwen* to have anything to do with the licensing of new establishments. This is the duty of the Medical Officer and is to remain so. The responsibility of the *Mo'âwen* commences immediately a licence has been granted. He will inspect all establishments. In the case of those recently licensed, he will see that the conditions laid down on the *rokhsa* are being fulfilled and report the result of the inspection to the Medical Officer. In the case of establishments licensed a long time ago, he will compare the conditions laid down with those given in the “ Model Conditions ” recently published and report to the Medical Officer what additional conditions, if any, are necessary to make the state of the establishment satisfactory.

“ When a *Mo'âwen* discovers that the conditions laid down on the *rokhsa* are not being carried out, he should try to persuade the owner of the establishment to voluntarily observe the conditions on the *rokhsa* or to allow further conditions to be added administratively without compelling the Department to put him in contravention or to draw up a Ministerial *Arrêté*.

“ It should be realized that the most successful *Mo'âwen* is not necessarily the one who has the largest number of contraventions or Ministerial *Arrêtés* in his district. It will be found that much can be done by exercising tact and patience, and as these new methods of supervision of *établissements insalubres* will be novel to many of the permit holders, the above qualities should be fully employed at the start in all cases. It is much better to get the condition of an establishment put right *bil ma'rûf* rather than *bil zûr*. However, if the owner of an establishment will not carry out the conditions laid down, or will not agree to the administrative addition to his *rokhsa* of conditions necessary to bring his establishment to a proper state of hygienic efficiency, then the *Mo'âwen* must report to the Medical Officer, who will decide whether to interview the recalcitrant himself, to write to him, draw up a *procès-verbal* of contravention, or prepare a Ministerial *Arrêté*.

“ 2. *Keeping up to date the Etablissements Insalubres Registers of the Circumscriptions allotted permanently to them.*

“ The *Mo'âwen* will be responsible for the *Etablissements Insalubres* Registers (Nos. 68, 69, 70 *C.Ad.*) of the circumscription permanently allotted to him. He will be expected to take a personal pride in the neatness and accuracy of his registers. All entries should be made in ink. He should make adequate arrangements for the safety of the registers when he is absent from the office on inspection.

“ 3. *Reporting the Existence of any Etablissements Insalubres found to be working without a Licence.*

“ The report on any such establishments should be made to the Medical Officer in writing. Before making the report, the *Mo'âwen* must assure himself by questioning the owner that the establishment really is not licensed. The Medical Officer will decide on the course of action to be adopted.”

CONCLUSION.

The benefits from the improvements in organization introduced in 1919 will, of course, take some time to become evident, but it is hoped that within a few years the establishments concerned with the manufacture, storage or sale of articles of food and drink will have reached a level of much higher hygienic efficiency than they are to-day.

The “ Health ” Division of the schedule of the *Etablissements Insalubres* Law has been repeatedly altered and added to since it was first issued in 1904. It is now very difficult for the Medical Officers to know exactly what establishments are included in it and what

are omitted from it. The schedule has therefore been completely revised and brought up-to-date and is with the Ministry of the Interior awaiting issue in the form of a Ministerial *Arrêté*.

It is hoped that the new schedule will be in force early in 1920.

TABLE III.—DETAILS OF THE APPLICATIONS FOR LICENCES FOR ESTABLISHMENTS FALLING UNDER CLASS I OF THE LAW OF AUGUST 1904 (PUBLIC AND CATTLE MARKETS INCLUDED) WHICH WERE DEALT WITH IN 1919.

NATURE OF ESTABLISHMENT.	Approved	Refused.	Given up.	Under Consideration	TOTAL.
Aerated water factories ... ..	7	2	3	4	16
Sweetmeat factories... ..	3	—	—	1	4
Sugar-cane crushing factories ... ..	2	—	—	—	2
Oil mills ... ..	1*	—	—	1	2
Starch factory ... ..	—	—	1	—	1
Butter and milk factories ... ..	2	—	3	1	6
Establishments for preparation and preservation of meat ... ..	—	—	1	2	3
Macaroni factory ... ..	—	—	—	1	1
Rice-husking and corn-grinding establishments ... ..	1	—	1	2	4
Rice-husking mills ... ..	12	—	3	3	18
Fish <i>halaqas</i> ... ..	—	—	1	3	4
Soap factories ... ..	5	—	2	3	10
Coffee mill ... ..	1	—	—	—	1
Cotton-ginning factories ... ..	9	—	2	3	14
Establishment for cleaning <i>skerto</i> cotton ...	—	—	1	—	1
Public baths ... ..	3	—	2	2	7
Public sea baths ... ..	1	—	—	—	1
Tanneries ... ..	5	—	—	3	8
<i>Homra</i> mill ... ..	1	—	—	—	1
Beer-bottling establishment ... ..	—	—	1	—	1
Distilleries of alcoholic liquors ... ..	2	—	—	3	5
Distillery of flowers and perfumes ... ..	—	—	1	—	1
Pottery ... ..	1	—	—	—	1
Tobacco-chopping factories ... ..	1	—	—	2	3
Rope factory ... ..	—	—	—	1	1
Establishments for scutching hemp and flax	1	1	—	4	6
Depot of carbide of calcium ... ..	1	—	—	—	1
Establishment for ravelling wool rags... ..	—	—	1	—	1
Oxygen factory and autogenous soldering workshop ... ..	—	—	—	1	1
Public and cattle markets ... ..	3	3	5	5	16
TOTAL ... ..	62	6	28	45	141

\* The licensed establishment contains also a corn mill.



*Ministerial "Arrêtés."*—The draft *arrêtés* laying down additional conditions for establishments possessing permits under the Law of August 28, 1904 (*Etablissements Insalubres*) were dealt with in 1919 as follows :—

TABLE IV.—MINISTERIAL "ARRÊTÉS."

NATURE OF ESTABLISHMENT.	Approved.	Refused.	Under Consideration	TOTAL.
<i>Alexandria :—</i>				
Public stables ... ..	9	—	1	10
Bakeries ... ..	10	—	—	10
Butchers' shops ... ..	9	—	4	13
Grocers' shops ... ..	10	—	—	10
Pastry cook shops ... ..	3	—	—	3
Public kitchens ... ..	2	—	—	2
Milk shops ... ..	6	—	—	6
Soap factory ... ..	1	—	—	1
Flour depots ... ..	2	—	—	2
Sweatmeat factories ... ..	2	—	—	2
Simple distillery ... ..	1	—	—	1
Macaroni factory ... ..	1	—	—	1
<i>Fissikh</i> and mussel depots ... ..	2	—	—	2
Frying and roasting establishments ... ..	2	—	—	2
Oil shop ... ..	1	—	—	1
<i>Cairo :—</i>				
Dye shop ... ..	1	—	—	1
Public stable ... ..	1	—	—	1
Bones and rag store ... ..	—	1	—	1
<i>Gharbiya Province :—</i>				
Public stables ... ..	3	—	—	3
Tanneries ... ..	6	—	—	6
Shop for the sale of fresh fish (retail) ... ..	1	—	—	1
Cattle shed ... ..	1	—	—	1
Public bath ... ..	1	—	—	1
<i>Minûfiya Province :—</i>				
Fish <i>halaga</i> ... ..	1	—	—	1
Bean cooking establishment ... ..	1	—	—	1
<i>Sharqîya Province :—</i>				
Public kitchen ... ..	1	—	—	1
<i>Qalyûbiya Province :—</i>				
Bakeries ... ..	—	—	2	2
<i>Damietta :—</i>				
Tannery ... ..	—	—	1	1
Public bakery ... ..	—	—	1	1
Sweatmeat factory ... ..	—	1	—	1
Rice-husking mill ... ..	—	1	—	1
<i>Giza Province :—</i>				
Public bakery ... ..	1	—	—	1
<i>Beheira Province :—</i>				
Public bath ... ..	—	—	1	1
Tannery ... ..	—	—	1	1
Skin store ... ..	—	—	1	1
<i>Beni Suef Province :—</i>				
Lime kiln ... ..	—	—	1	1
TOTAL ... ..	79	3	13	95

### 3.—CEMETERIES AND PRIVATE TOMBS.

#### (a) CEMETERIES.

*New Cemeteries and Cemetery Extension.*—With the cessation of hostilities and the relatively greater facility of obtaining the necessary material for the erection of demarcation pillars, cemetery work has become more active. A larger number of new cemeteries has been created, whilst the number of existing cemeteries enlarged has also been increased.

A still greater increase may, however, be expected in the near future owing to there being a large number of cemeteries still awaiting demarcation by pillars.

*Encroachments.*—These are still very frequent, but in the majority of cases the encroachment is due to the cemeteries being very old, to the absence of pillars to distinguish their boundaries from the surrounding land, and to the absence of data as to how and when they were established.

The Survey of Egypt has been asked to proceed with the work of surrounding these cemeteries by pillars with all possible celerity.

*Control Register.*—A new register has been created in which all particulars of the successive stages of the work done and in course of execution in connection with new cemeteries and cemetery extensions are recorded. This register is a comprehensive summary of this branch of the work and enables the Director of the Section at a glance to know exactly how matters stand, where any delay may be occurring, and the time covering the whole procedure in each case.

TABLE V.—WORK DONE IN CONNEXION WITH CEMETERIES DURING 1919.

PROVINCE OR GOVERNORATE.	CEMETERIES.			OLD CEMETERIES.			
	Established.	Enlarged.	Roads for Cemeteries.	Authorized.	Portion condemned.	Condemned.	Disaffected.
Gharbiya Province	—	—	—	15	—	1	2
Beheira „	1	—	1	25	—	1	—
Sharqiya „	3	—	1	2	—	6	1
Daqahliya „	—	—	—	4	—	1	5
Minûfiya „	2	2	—	6	—	2	—
Qalyûbiya „	1	1	—	1	—	1	—
Giza „	—	—	—	—	—	1	—
Faiyûm „	—	1	—	1	—	—	—
Minya „	2	2	2	2	—	—	—
Asyût „	—	—	—	2	—	31	—
Suez Governorate	1	—	—	—	—	—	—
TOTAL ... ..	10	6	4	58	—	44	8

TABLE VI.—LEGAL ACTIONS BROUGHT BY THE CONTENTIEUX AGAINST ENCROACHERS ON CEMETERY LANDS DURING 1919.

PROVINCE.	Judgment in Government's Favour.	Judgment against Government.	Cases filed.
Sharqîya ... ..	1	—	11
Daqahliya ... ..	1	1	6
Qalyûbiya ... ..	—	—	2
Gharbîya ... ..	—	—	7
Minûfiya ... ..	—	—	6
Beheira ... ..	2	—	2
Giza ... ..	—	—	2
Faiyûm ... ..	—	—	3
Asyût ... ..	—	1	—
Girga ... ..	—	—	1
Aswân ... ..	—	—	1
TOTAL ... ..	4	2	41

(b) PRIVATE TOMBS.

The Department accorded five special authorizations for burial in private tombs situated outside cemeteries, as follows:—

Gharbîya Province	... ..	3
Minûfiya Province	... ..	1
Minya Province	... ..	1

4.—“ BIRKAS.”

TABLE VII.—LIST OF GOVERNMENT “ BIRKAS ” FILLED IN DURING 1919.

PROVINCE.	Number of <i>Birkas</i> filled in.	TOTAL AREA.			
		Feddâns.	Qirâts.	Sahms.	Square Metres.
Beheira ... ..	12	—	11	17	2,048·93
Gharbîya ... ..	2	—	6	10	1,122·90
Sharqîya ... ..	1	1	12	20	6,445·80
Qalyûbiya ... ..	2	—	20	13	3,594·77
Beni Suef ... ..	1	—	8	—	1,400·00
Minya ... ..	1	1	1	4	4,404·16
Asyût ... ..	7	—	7	17	1,865·13
TOTAL ... ..	26	4	20	9	20,891·69



5.—MOSQUES.

TABLE VIII.—MOSQUES DEALT WITH IN 1919.

DESCRIPTION.	Cairo Governorate.	Provinces.	Total.
Ablutionary systems of private mosques newly constructed and opened for use... ..	—	2	2
Ablutionary systems of Waqfs mosques repaired and opened for use	7	4	11
Ablutionary systems of old private mosques requiring repairs :—			
Number opened for use after repair ... ..	—	25	25
„ closed for want of repair ... ..	2	252	254
„ under repair ... ..	—	231	231

6.—PROTECTION OF DRINKING WATER.

*Arrêtés* were issued and published in the *Journal Officiel* for preventing the pollution of drinking water at the following places :—

Talkha Bandar, Gharbîya Province.

Aga Bandar, Daqahlîya Province.

7.—SLAUGHTER-HOUSES AND SLAUGHTERING SITES.

Sites for slaughter of animals for food in villages where no slaughter-houses exist were approved in the following villages :—

One at Mahmudiya, Beheira Province.

One at Melîg, Minûfiya Province.

8.—“ DÉPOTOIRS.”

No *dépotoirs* have been approved by the Department during 1919.

9.—PROSTITUTION.

TABLE IX.—PROSTITUTION IN 1919.

PLACE.	Number of Prostitutes.	Number of Examinations.	SICK OF				
			Syphilis.	Gonorrhœa.	Other Diseases.		
GOVERNORATES.							
Cairo ... ..	1,601	24,980	194	2,497	97		
{ Natives ... ..	441	15,826	11	332	8		
Alexandria ... ..	2,324	56,949	236	1,195	491		
Port Said ... ..	204	7,118	—	72	47		
{ Europeans ... ..	64	1,976	—	20	8		
Ismailia ... ..	94	3,025	—	47	5		
Suez ... ..	88	3,613	4	66	37		
Damietta ... ..	2	110	—	2	—		
PROVINCES.							
<i>Beheira</i> :—							
Damanhûr ... ..	163	3,853	37	90	—		
Shubrakhît ... ..	15	410	2	—	1		
<i>Carried forward</i> ... ..							
	4,996	117,860	484	4,321	694		



TABLE IX.—PROSTITUTION IN 1919 (*continued*).

PLACE.	Number of Prostitutes.	Number of Examinations	SICK OF		
			Syphilis.	Gonorrhœa.	Other Diseases.
<i>Brought forward...</i>	4,996	117,860	484	4,321	694
<i>Gharbiya :—</i>					
Tanta ... ..	267	5,373	42	141	11
Kafr el Sheikh ... ..	46	1,175	22	5	2
Disûq ... ..	17	780	6	8	2
Mahalla el Kubra... ..	56	1,450	9	4	—
Kafr el Zaiyât ... ..	49	970	3	42	—
<i>Minûfiya :—</i>					
Shibîn el Kôm ... ..	23	449	18	17	9
Minûf ... ..	17	225	2	—	—
<i>Sharqîya :—</i>					
Zagazig ... ..	196	4,641	31	98	42
Bilbeis ... ..	29	914	12	22	—
Ibrahimîa ... ..	50	519	9	56	8
<i>Daqahlîya :—</i>					
Mansûra ... ..	101	2,580	—	9	14
Mît Ghamr ... ..	48	2,100	11	14	—
Simbillâwein ... ..	29	853	5	6	—
<i>Qalyûbiya :—</i>					
Benha ... ..	66	3,432	35	43	17
<i>Gîza :—</i>					
Gîza ... ..	20	555	2	2	1
Imbâba ... ..	32	544	1	4	—
<i>Faiyûm :—</i>					
Faiyûm ... ..	82	1,732	18	36	10
<i>Beni Suef :—</i>					
Beni Suef ... ..	84	2,013	34	37	15
<i>Minya :—</i>					
Minya ... ..	95	3,640	71	97	22
Beni Mazâr ... ..	34	1,052	10	13	—
<i>Asyût :—</i>					
Asyût ... ..	119	3,283	68	109	4
Mallawi ... ..	25	718	3	4	—
Rôda ... ..	16	301	—	—	—
Manfalût ... ..	6	155	—	—	—
Abu Tîg ... ..	25	414	10	30	4
<i>Girga :—</i>					
Tahta ... ..	23	564	—	11	5
Sohâg ... ..	86	2,704	17	38	11
Akhmîm... ..	28	694	3	6	4
Girga ... ..	52	1,255	16	10	8
Balyâna ... ..	32	435	10	—	6
<i>Qena :—</i>					
Isna ... ..	30	1,620	2	19	3
Luxor ... ..	38	1,243	1	11	—
Qûs ... ..	26	549	1	3	—
Dishna ... ..	23	513	—	5	2
Nag <sup>c</sup> Hammâdi ... ..	23	863	3	11	4
Farshût ... ..	20	514	17	19	12
Qena ... ..	74	1,983	7	53	1
<i>Aswân :—</i>					
Aswân ... ..	22	578	3	2	4
TOTAL... ..	7,005	171,243	986	5,306	915

TABLE X.—NUMBER OF PROSTITUTES TREATED IN GOVERNMENT HOSPITALS DURING 1919.

HOSPITAL.	Number of Prostitutes.	DISEASES.		
		Syphilis.	Gonorrhœa.	Other Diseases.
Alexandria... { Lock Hospital for Natives ... ..	1,427	200	584	643
{ Lock Hospital for Europeans... ..	821	63	490	268
Suez ... ..	159	4	113	42
Port Said ... ..	146	32	87	27
Damietta ... ..	3	1	1	1
Tanta ... ..	211	59	141	11
Damanhûr ... ..	127	37	90	—
Mansûra... ..	195	35	158	2
Zagazig ... ..	205	43	120	42
Shibin el Kôm ... ..	44	18	17	9
Benha ... ..	95	35	43	17
Cairo ... { Hôd el Marsûd Lock Hospital for Natives...	4,151	410	3,670	71
{ Lock Hospital for Europeans ... ..	351	11	332	8
Beni Suef ... ..	86	34	37	15
Faiyûm ... ..	127	18	99	10
Minya ... ..	190	71	97	22
Asyût ... ..	232	81	143	8
Sohâg ... ..	159	51	93	15
Qena ... ..	112	15	93	4
Isna... ..	24	2	19	3
Aswân ... ..	11	6	2	3
TOTAL ... ..	8,876	1,226	6,429	1,221

10.—MEDICO-LEGAL EXAMINATIONS AND REPORTS.

TABLE XI.—STATISTICS.

LOCALITY.	SLIGHT.		SERIOUS.		FATAL.		TOTAL.	
	Accident.	Criminal.	Accident.	Criminal.	Accident.	Criminal.	Accident.	Criminal.
GOVERNORATES.								
Cairo... ..	247	5,605	119	65	165	113	531	5,783
Alexandria... ..	1,058	2,207	368	197	475	204	1,901	2,608
Canal { Port Said ... ..	62	725	28	7	13	—	103	732
{ Ismailia ... ..	48	161	7	5	19	—	74	166
Suez (including Quseir)... ..	14	258	2	15	14	5	30	278
Damietta ... ..	19	305	23	5	24	5	66	315
PROVINCES.								
<i>Lower Egypt:—</i>								
Beheira ... ..	169	2,467	46	199	242	119	457	2,785
Gharbiya ... ..	365	3,974	243	323	389	171	997	4,468
Minûfiya ... ..	235	3,300	257	158	268	99	760	3,557
Daqahliya ... ..	222	2,462	132	174	221	75	575	2,711
Sharqiya. . . . .	233	1,882	156	126	316	92	705	2,100
Qalyûbiya ... ..	157	1,356	107	82	186	64	450	1,502
<i>Upper Egypt:—</i>								
Gîza... ..	215	1,379	98	99	187	99	500	1,577
Faiyûm ... ..	63	1,027	68	104	62	58	193	1,189
Beni Suef ... ..	177	1,115	56	160	87	101	320	1,376
Minya ... ..	127	2,072	94	184	213	120	434	2,376
Asyût ... ..	254	2,904	173	348	211	155	638	3,407
Girga ... ..	196	2,697	119	259	272	127	587	3,083
Qena ... ..	105	1,671	85	179	256	67	446	1,917
Aswân ... ..	47	551	52	49	109	6	208	606
TOTAL ... ..	4,013	38,118	2,233	2,738	3,729	1,680	9,975	42,536



## II.—REPORT ON SECTION II.

### I.—GENERAL HOSPITALS.

#### GENERAL.

In general the policy of this Section has remained unchanged since last year, and no developments of outstanding importance have been undertaken.

The number of hospitals remains the same, *viz.* 24, the total number of beds being 4,592, an increase of 49 beds. As will be seen from the attached tables the total number of cases treated was 64,704, and the number of days of treatment 1,021,498, compared with 75,002 and 1,117,791 respectively in 1918.

This decrease is due to two factors, *viz.* the disturbed state of the country and interruption of communications during the months of March, April, and May, and to the cessation of the influenza epidemic which assumed such formidable proportions in 1918.

Apart from this there is evidence on all sides of an increased disposition on the part of the population to avail themselves of hospital treatment, and it is becoming manifest that the great majority of provincial Government hospitals are inadequate in size to meet the local needs of the people. Circumstances arising out of the war have necessitated the postponement of a large building programme, but postponement has made certain developments and reforms only more urgent. With the return of more normal conditions the rebuilding of some hospitals and the enlargement of others will, it is hoped, be begun in the immediate future.

In this connection the generous offer of Messrs. Thos. Cook & Son to present to the Government the freehold, building, and equipment of their hospital at Luxor has been referred for approval by the Ministry of Finance. Its utility is indicated by the fact that it will serve the needs of some 45,000 inhabitants in the neighbourhood.

#### BUILDING, ALTERATIONS, AND REPAIRS.

As is mentioned above, no new building operations of importance have been carried out during the year. Alterations and repairs have been confined to the most urgent needs

#### X-RAYS.

An *x-ray* plant was installed in Damanhûr hospital during 1919.

At present there are *x-ray* outfits in the following hospitals :—

Alexandria.	Suez.	Port Said.
Tanta.	Damanhûr.	Benha.
Mansûra.	Qalyûb.	Qasr el 'Aini.
Beni Suef.	Asyût.	Zagazig.

#### PERSONNEL.

In view of the development of medical work in provincial hospitals the post of Second Medical Officer has been created at Benha, Sohâg, and Qena Hospitals. There is now a Second Medical Officer in all hospitals except Damietta, Aswân, Qalyûb, and Isna, which it is hoped will be provided with Second Medical Officers in the near future. Further, it is hoped to strengthen the staffs of some of the larger provincial hospitals by the addition of a Third Medical Officer.

Pursuant to its policy of raising the standard of the nursing service in provincial hospitals the Department has created the posts of matron and nursing sister in this year's budget for Beni Suef Hospital, and will gradually extend this to all the larger hospitals as budgetary provision permits.

The shortage of pharmacists has made it difficult to grant leave as freely as it could be wished owing to the difficulty of providing reliefs. It is hoped that this will be rectified in the future.

The present class of hospital storekeepers (*Mo'áwenîn*) is on the whole not satisfactory. In order to get suitable men it will be necessary to require a higher standard of education and technical knowledge, which will entail an improvement in their status.

COST OF MAINTENANCE.

The cost of upkeep of hospitals for 1919 was L.E. 183,141·974 milliemes, as against L.E. 166,218·433 milliemes in 1918, an increase of L.E. 16,923·541 milliemes. This increase is due to the present high prices of all drugs, dressings, food, etc. The cost of upkeep does not include the expenses of the Central Administration, nor does it include repairs and renewals of buildings.

The cost per bed per annum in 1919 was L.E. 39·883 milliemes, as against L.E. 36·588 milliemes in 1918. The cost per patient per day was 179 milliemes in 1919, 149 milliemes in 1918, 131 milliemes in 1917, 130 milliemes in 1916, 134 milliemes in 1915.

The increase of cost per patient and of maintenance generally was and is inevitable in view of the continual rise in prices.

HOSPITAL RECEIPTS.

The receipts for 1919 amounted to L.E. 18,097·193 milliemes, as against L.E. 23,277·650 milliemes in 1918, a decrease of L.E. 5,180·457 milliemes. This decrease is due mainly to the greatly reduced number of military patients treated and in a lesser degree to the general reduction in numbers admitted.

STATISTICS.

The remaining tables of statistics explain themselves and call for no comment.

TABLE XII.—COMPARATIVE GENERAL STATISTICS.

	1918.		1919.		Increase or Decrease.	
Number of hospitals ... ..	24		24		—	
„ beds ... ..	4,543		4,592		+ 49	
„ in-patients treated ... ..	75,002		64,704		— 10,298	
Of which voluntary patients... ..	38,612		33,299		— 5,313	
Death-rate for in-patients ... ..	6·946 per cent.		6·571 per cent.		— 0·375 per cent	
Number of days of treatment ... ..	1,117,791		1,021,498		— 96,293	
„ new out-patients ... ..	215,417		219,573		+ 4,156	
„ out-patients' visits ... ..	436,035		402,996		— 33,039	
Major operations ... ..	8,500		9,051		+ 551	
	L.E.	M.	L.E.	M.	L.E.	M.
Cost of upkeep ... ..	166,218	433	183,141	974	+ 16,923	541
Receipts ... ..	23,277	650	18,097	193	— 5,180	457

TABLE XIII.—COMPARATIVE ANNUAL STATISTICS.

YEAR.	Number of Beds.	Number of In-Patients.	Number of Days of Treatment.	Number of New Out-Patients.	Number of Out-Patients' Visits.	Total Cost of Maintenance.		Cost per Bed per Annum.		Cost per Patient per Day.
						L.E.	M.	L.E.	M.	
1908	2,263	31,802	556,543	—	—	—	—	—	—	—
1909	2,491	34,221	598,539	144,509	353,409	—	—	—	—	—
1910	2,385	35,065	579,796	152,733	312,152	—	—	—	—	—
1911	2,385	37,018	621,350	173,401	385,062	—	—	—	—	—
1912	2,346	38,887	614,921	192,227	424,707	77,992	867	33	245	127
1913	2,409	42,794	627,813	207,882	417,845	83,698	539	34	744	133
1914	2,485	44,914	681,680	179,338	346,673	92,189	050	37	098	135
1915	3,320	50,483	858,878	152,329	340,774	114,843	117	34	591	134
1916	3,825	55,489	946,557	178,788	392,961	123,379	860	32	256	130
1917	3,872	56,289	871,228	209,909	471,742	114,591	683	29	595	131
1918	4,543	75,002	1,117,791	215,417	436,035	166,218	433	36	588	149
1919	4,592	64,704	1,021,498	219,573	402,996	183,141	974	39	883	179



TABLE XIV.—ANALYSIS OF MILITARY CASES, 1919.

HOSPITAL.	Number of Military Patients admitted (including Prisoners of War).	Number of Military Cases discharged Fit for Duty (or, if Prisoners of War, to Prisoners of War Camp).	Number of Military Cases discharged to Convalescent Homes or Camps.	Number of Military Cases discharged to England.	Number of Military Cases transferred to other Hospitals.	Number of Military Cases which died.	Number of Patient-Days for Military Patients (including Prisoners of War.)
Alexandria ... ..	701	653	—	—	30	10	7,750
Suez ... ..	450	280	4	4	149	13	5,647
Port Said ... ..	328	255	16	20	3	26	2,431
Port Said (Infect.)	14	—	13	—	—	1	223
Tanta ... ..	4	3	—	—	—	1	58
Damanhûr ... ..	342	150	—	—	190	2	1,478
Mansûra... ..	12	10	—	—	—	1	121
Zagazig ... ..	205	202	—	—	—	3	2,565
Benha ... ..	3	2	—	—	—	—	70
Qalyûb ... ..	2	1	—	—	—	1	2
Qasr el 'Aini... ..	404	384	—	—	—	20	4,784
Fever 'Abbâsiya ...	231	31	161	—	—	23	7,313
Beni Suef ... ..	7	1	1	—	4	1	21
Asyût ... ..	16	—	16	—	—	—	363
Sohâg ... ..	3	3	—	—	—	—	27
Qena ... ..	54	54	—	—	—	—	703
Aswân ... ..	3	3	—	—	—	—	60
Zagazig E.L.C. ...	1,029	906	—	—	—	123	39,138
Total for 1919 ...	3,808	2,938	211	24	376	225	72,754
Total for 1918 ...	8,532	5,136	1,448	34	1,033	578	122,557
Total for 1917 ...	4,548	2,931	57	28	1,433	108	67,058
Total for 1916 ...	12,897	7,142	2,155	199	2,977	170	212,238
Total for 1915 ...	14,851	4,459	7,769	1,262	816	212	306,540
Total for 1914 ...	536	438	—	10	74	14	8,107
Total from commencement of War to end of 1919... ..	45,172	23,044	11,640	1,557	6,709	1,307	789,254

TABLE XV.—NUMBER OF MILITARY CASES TREATED HOSPITAL BY HOSPITAL SINCE COMMENCEMENT OF WAR TILL THE END OF 1919.

HOSPITAL.	Number of Military Patients admitted (including Prisoners of War).	Number of Military Cases discharged Fit for Duty (or, if Prisoners of War, to Prisoners of War Camp).	Number of Military Cases discharged to Convalescent Homes or Camps.	Number of Military Cases discharged to England.	Number of Military Cases transferred to other Hospitals.	Number of Military Cases which died.	Number of Patient-days for Military Patients (including Prisoners of War.)
Alexandria ... ..	4,767	1,710	2,099	528	198	182	108,346
Suez ... ..	12,759	7,157	1,451	393	3,385	136	162,490
Port Said ... ..	4,540	2,800	1,098	140	209	162	81,553
Port Said (Infect.)	525	239	142	—	64	65	6,874
Tanta ... ..	1,342	863	265	128	83	3	29,933
Damanhûr ... ..	1,367	762	151	75	333	7	24,884
Mansûra... ..	711	494	129	47	39	1	17,478
Zagazig ... ..	2,081	1,511	151	148	208	22	41,872
E.L.C. Camp... ..	3,493	2,666	—	—	—	531	85,628
Shibîn el Kôm ...	423	254	105	30	18	—	11,186
Benha ... ..	1,202	918	141	38	77	3	22,682
Qalyûb ... ..	2	1	—	—	—	1	2
Mersa Matrûh ...	60	59	—	—	—	1	797
Qasr el 'Aini... ..	5,886	676	5,147	30	33	80	96,365
Fever 'Abbâsiya ...	752	241	161	—	261	73	19,027
Beni Suef ... ..	402	280	15	—	105	2	7,212
Faiyûm ... ..	1,161	629	118	—	360	6	16,476
Minya ... ..	1,182	366	428	—	376	12	14,866
Asyût ... ..	1,766	954	16	—	740	16	31,017
Sohâg ... ..	482	285	3	—	158	4	6,309
Qena ... ..	139	76	—	—	54	—	2,316
Isna... ..	90	77	13	—	—	—	1,159
Aswân ... ..	40	26	7	—	8	—	782
Total ... ..	45,172	23,044	11,640	1,557	6,709	1,307	789,254

TABLE XVI.—PATIENTS AND COST DURING 1919.

HOSPITAL.	Number of Beds.	Number of In-Patients.	Number of Days of Treatment.	Number of New Out-Patients.	Number of Out-Patients' Visits.	Number of Operations.	Cost of Upkeep for 1919.		Cost per Bed per Annum.		Cost per Patient per Day.
							L.E.	M.	L.E.	M.	
Alexandria... ..	356	11,128	124,718	18,061	45,036	1,819	23,747	168	66	705	190
Suez ... ..	404	2,780	31,645	4,479	5,568	277	10,301	003	25	497	325
Port Said ... ..	178	2,997	45,825	13,908	24,545	262	9,574	000	53	786	209
Port Said (Inf.)...	96	660	8,724	—	—	—	1,520	000	15	833	174
Damietta ... ..	52	1,102	16,078	7,771	14,693	252	2,560	663	49	243	159
Tanta ... ..	113	1,917	39,258	5,643	18,858	390	5,993	127	53	036	153
Tanta (Infectious)	18	517	5,412	—	—	—	681	681	37	871	126
Damanhûr ... ..	75	1,845	17,882	4,874	11,405	280	3,463	816	46	184	194
Mansûra ... ..	126	2,112	37,456	5,976	10,215	291	5,831	658	46	283	155
Zagazig ... ..	115	2,026	33,899	5,477	9,278	556	5,072	215	44	106	150
Shibîn el Kôm ...	74	1,326	19,260	5,592	15,641	308	3,561	073	48	123	185
Benha ... ..	71	1,522	23,483	3,687	5,486	220	3,895	715	54	869	165
Qalyûb ... ..	40	1,201	12,173	6,024	13,655	382	3,032	328	75	808	249
Qasr el 'Aini ...	741	12,070	182,573	100,794	153,223	1,552	44,663	298	60	274	244
Hôd el Marsûd...	300	4,456	106,264	236	3,391	—	5,334	863	17	783	50
Fever Hosp. Cairo	900	5,584	105,943	—	—	—	22,295	486	24	773	210
Beni Suef ... ..	62	1,278	22,734	5,118	8,741	342	3,925	622	63	316	173
Faiyûm ... ..	64	1,368	18,625	5,153	10,254	197	4,020	162	62	815	216
Minya ... ..	96	1,455	24,753	3,903	12,790	251	3,699	305	38	534	149
Asyût ... ..	172	2,471	42,600	6,450	8,218	743	5,344	072	31	070	125
Sohâg ... ..	56	1,383	19,359	3,896	8,573	196	3,822	430	68	257	197
Qena ... ..	59	1,353	23,545	5,275	10,873	358	2,610	148	44	240	111
Isna ... ..	31	524	9,570	2,693	3,242	129	1,530	746	49	379	160
Aswân ... ..	43	536	10,581	4,563	9,311	244	2,895	602	67	339	273
TOTAL ...	4,242	63,611	982,360	219,573	402,996	9,049	179,376	181	42	286	182
Zagazig E.L.C.	350	1,093	39,138	—	—	2	3,765	793	10	759	96
GRAND TOTAL ...	4,592	64,704	1,021,498	219,573	402,996	9,051	183,141	974	39	883	179



TABLE XVII.—ADMISSIONS AND DISCHARGES DURING 1919.

HOSPITAL.	Existing.	Admitted.	Total.	DISCHARGED.			Remaining.
				Cured.	Died.	Improved.	
Alexandria ... ..	449	10,679	11,128	6,032	786	3,905	405
Suez ... ..	158	2,622	2,780	1,953	110	636	81
Port Said ... ..	118	2,879	2,997	1,455	161	1,251	130
Port Said (Infectious) ... ..	—	660	660	589	50	—	21
Damietta ... ..	28	1,074	1,102	807	46	208	41
Tanta ... ..	59	1,858	1,917	1,449	113	275	80
Tanta (Infectious) ... ..	38	479	517	462	40	—	15
Damanhûr ... ..	32	1,813	1,845	1,434	85	270	56
Mansûra ... ..	76	2,036	2,112	1,156	170	670	116
Zagazig ... ..	56	1,970	2,026	1,512	92	311	111
Shibîn el Kôm ... ..	37	1,289	1,326	1,027	44	192	63
Benha ... ..	65	1,457	1,522	1,001	44	409	68
Qalyûb ... ..	29	1,172	1,201	226	42	897	36
Qâsr el ‘Aini ... ..	539	11,531	12,070	4,028	1,114	6,441	487
Hôd el Marsûd ... ..	305	4,151	4,456	—	—	4,210	246
Fever, ‘Abbâsiya ... ..	54	5,530	5,584	4,586	856	48	94
Beni Suef ... ..	32	1,246	1,278	806	23	399	50
Faiyûm ... ..	44	1,324	1,368	953	43	324	48
Minya ... ..	76	1,379	1,455	995	69	322	69
Asyût ... ..	100	2,371	2,471	1,850	103	394	124
Sohâg ... ..	39	1,344	1,383	958	54	305	66
Qena ... ..	43	1,310	1,353	910	42	345	56
Isna ... ..	18	506	524	271	20	210	23
Aswân ... ..	14	522	536	285	22	185	44
TOTAL ... ..	2,409	61,202	63,611	34,745	4,129	22,207	2,530
Zagazig E.L.C. ... ..	64	1,029	1,093	491	123	479	—
GRAND TOTAL ... ..	2,473	62,231	64,704	35,236	4,252	22,686	2,530

TABLE XVIII.—IN-PATIENTS (VOLUNTARY, MILITARY, AND POLICE) DURING 1919.

HOSPITAL.	Voluntary Cases.	Police Cases.	Military Cases.	Total Number of Cases.	Total Number of Days of Treatment.
Alexandria ... ..	6,426	3,552	701	10,679	124,718
Suez ... ..	1,416	756	450	2,622	31,645
Port Said ... ..	2,069	482	328	2,879	45,825
Port Said (Infectious)	623	23	14	660	8,724
Damietta ... ..	902	172	—	1,074	16,078
Tanta ... ..	475	1,379	4	1,858	39,258
Tanta (Infectious) ...	438	41	—	479	5,412
Damanhûr ... ..	903	568	342	1,813	17,882
Mansûra ... ..	1,063	961	12	2,036	37,456
Zagazig ... ..	655	1,110	205	1,970	33,899
Shibîn el Kôm ... ..	503	786	—	1,289	19,260
Benha ... ..	478	976	3	1,457	23,483
Qalyûb ... ..	939	231	2	1,172	12,173
Qasr el 'Aini ... ..	6,635	4,492	404	11,531	182,573
Hôd el Marsûd ... ..	—	4,151	—	4,151	106,264
Fever, 'Abbâsiya ... ..	4,780	519	231	5,530	105,943
Beni Suef ... ..	768	471	7	1,246	22,734
Faiyûm ... ..	364	960	—	1,324	18,625
Minya ... ..	590	789	—	1,379	24,753
Asyût ... ..	1,247	1,108	16	2,371	42,600
Sohâg ... ..	625	716	3	1,344	19,359
Qena ... ..	735	521	54	1,310	23,545
Isna ... ..	323	183	—	506	9,570
Aswân ... ..	342	177	3	522	10,581
TOTAL ... ..	33,299	25,124	2,779	61,202	982,360
Zagazig E.L.C. ... ..	—	—	1,029	1,029	39,138
GRAND TOTAL ... ..	33,299	25,124	3,808	62,231	1,021,498



TABLE XIX.—OUT-PATIENTS' DIVISION 1919.

HOSPITAL.	Number of Patients.	Number of Attendances.	HOSPITAL.	Number of Patients.	Number of Attendances.
			<i>Brought forward</i> ...	75,468	160,725
Alexandria ... ..	18,061	45,036	Qalyûb... ..	6,024	7,631
Suez ... ..	4,479	5,568	Qasr el 'Aini ... ..	100,794	153,223
Port Said ... ..	13,908	24,545	Hôd el Marsûd ... ..	236	3,391
Port Said (Infectious)	—	—	Fever, 'Abbâsiya ...	—	—
Damietta ... ..	7,771	14,693	Beni Suef ... ..	5,118	8,741
Tanta ... ..	5,643	18,858	Faiyûm ... ..	5,153	10,254
Tanta (Infectious) ...	—	—	Minya ... ..	3,903	12,790
Damanhûr ... ..	4,874	11,405	Asyût ... ..	6,450	8,218
Mansûra ... ..	5,976	10,215	Sohâg ... ..	3,896	8,573
Zagazig ... ..	5,477	9,278	Qena ... ..	2,575	10,873
Shibîn el Kôm ... ..	5,592	15,641	Isna ... ..	2,693	3,242
Benha ... ..	3,687	5,486	Aswân ... ..	4,563	9,311
<i>Carried forward</i> ...	75,468	160,725	TOTAL ...	216,873	396,972

TABLE XX.—HOSPITAL RECEIPTS DURING 1919.

HOSPITAL.	RECEIPTS.		HOSPITAL.	RECEIPTS.	
	L.E.	M.		L.E.	M.
			<i>Brought forward</i> ...	10,293	283
Alexandria... ..	1,422	170	Qalyûb ... ..	170	559
Suez ... ..	2,589	880	Qasr el 'Aini ... ..	926	874
Port Said ... ..	3,213	346	Hôd el Marsûd ... ..	—	—
Port Said (Infectious) ... ..	—	—	Fever, Abbassia ... ..	4,172	706
Damietta ... ..	270	939	Beni Suef ... ..	306	004
Tanta ... ..	304	424	Faiyûm ... ..	195	708
Tanta (Infectious) ... ..	—	—	Minya... ..	323	578
Damanhûr ... ..	628	582	Asyût ... ..	726	554
Mansûra ... ..	581	410	Sohâg ... ..	213	645
Zagazig ... ..	483	265	Qena ... ..	277	920
Shibîn el Kôm ... ..	404	830	Isna ... ..	241	525
Benha ... ..	394	437	Aswân ... ..	248	837
<i>Carried forward</i> ...	10,293	283	TOTAL ...	18,097	193

TABLE XXI.—

SECTION.	Alexandria.	Suez.	Port Said.	Port Said. (Infectious).	Damietta.	Tanta.	Tanta (Infectious).	Damanhūr.	Mansūra.	Zagazig.
<i>Medical :—</i>										
<i>Alimentary :—</i>										
Diseases of stomach ... ..	94	63	2	—	30	12	—	20	6	25
Tuber. peritonitis ... ..	12	—	1	—	1	2	—	—	1	—
Dysentery ... ..	193	58	35	—	19	18	—	99	16	46
Diarrhœa and enteritis ... ..	250	67	102	—	25	36	—	110	42	45
Liver ... ..	41	—	—	—	—	8	—	2	5	—
Other diseases ... ..	70	—	1	—	1	—	—	—	—	—
<i>Respiratory :—</i>										
Pneumonia ... ..	30	47	67	—	15	7	—	11	4	5
Phthisis ... ..	143	26	39	—	3	7	—	—	5	8
Pleurisy ... ..	24	5	24	—	2	3	—	3	3	—
Other diseases ... ..	396	81	85	—	42	46	158	20	22	57
<i>Circulatory :—</i>										
Heart ... ..	83	7	16	—	10	3	—	4	15	9
Other diseases ... ..	34	4	6	—	—	—	—	—	—	—
<i>Urinary :—</i>										
Nephritis ... ..	95	34	9	—	20	19	—	18	29	13
Other diseases ... ..	118	5	9	—	—	9	—	7	16	25
<i>Blood :—</i>										
Spleen ... ..	38	—	—	—	—	10	—	5	1	8
Other diseases ... ..	84	—	—	—	54	—	—	7	32	—
<i>Nervous :—</i>										
Brain ... ..	33	1	1	—	—	1	—	—	—	—
Spinal cord ... ..	16	1	—	—	1	7	—	—	—	—
Other diseases ... ..	62	—	17	—	7	9	—	11	1	9
<i>Constitutional :—</i>										
Rheumatism ... ..	144	56	44	—	11	9	—	3	9	12
Diabetes ... ..	23	—	—	—	—	—	—	2	1	1
Senility ... ..	79	—	18	—	1	6	—	—	2	—
Debility ... ..	146	40	66	—	2	17	—	14	62	72
<i>Parasitic :—</i>										
Malaria ... ..	75	172	62	—	52	17	20	15	15	13
Ankylostomiasis ... ..	56	—	8	—	37	4	—	64	8	54
Filaria ... ..	19	—	—	—	—	—	—	7	—	—
Pellagra ... ..	—	3	2	—	59	25	—	—	57	9
<i>Poisoning :—</i>										
Alcohol ... ..	166	—	2	—	2	64	—	2	1	—
Other poisons ... ..	33	—	2	—	2	36	—	7	2	—
Lunatics ... ..	161	15	45	—	1	42	—	30	20	10
Other medical diseases ... ..	92	863	758	660	86	101	339	458	351	295
<i>Surgical :—</i>										
<i>Fractures :—</i>										
Simple ... ..	318	21	71	—	16	77	—	23	28	51
Compound ... ..	87	17	5	—	11	45	—	19	30	18
<i>Tumours :—</i>										
Malignant ... ..	44	5	—	—	6	3	—	2	7	1
Non-malignant ... ..	30	—	16	—	5	3	—	3	9	18
Traumatic injuries ... ..	724	1	—	—	44	441	—	181	240	334
Burns ... ..	113	15	39	—	19	34	—	16	15	19
Bilharziasis ... ..	108	5	16	—	91	49	—	6	146	35
Fistula in ano ... ..	62	6	11	—	9	22	—	24	20	19
Liver abscess ... ..	5	—	—	—	—	1	—	2	—	1
Hernia ... ..	241	33	62	—	24	26	—	26	62	81
Hæmorrhoids ... ..	213	37	37	—	10	22	—	39	43	40
Appendicitis ... ..	10	8	—	—	2	1	—	—	3	1
Vesical calculus ... ..	21	2	1	—	12	19	—	29	32	19
Other surgical diseases ... ..	1,072	556	827	—	231	286	—	326	311	369
<i>Ophthalmic ... ..</i>	467	66	85	—	36	—	—	22	7	2
<i>Skin Diseases ... ..</i>	371	63	51	—	18	53	—	12	39	73
<i>Venereal :—</i>										
Syphilis ... ..	345	123	103	—	37	137	—	66	195	85
Gonorrhœa ... ..	1,539	179	123	—	9	149	—	94	183	131
<i>Midwifery ... ..</i>	51	14	2	—	5	—	—	4	8	4
<i>Gynecological diseases ... ..</i>	137	11	68	—	13	13	—	19	—	8
<i>Relatives accompanying patients ... ..</i>	2,360	70	59	—	21	18	—	13	8	1
TOTAL ... ..	11,128	2,780	2,997	660	11,02	1,917	517	1,845	2,112	2,026



RETURN OF SICK, 1919.

Shibín el Kôm	Benha.	Qalyûb.	Qasr el 'Aini.	Hôd el Marsûd.	Fever 'Abbâsiya.	Beni Suef.	Faiyûm.	Minya.	Asyût.	Sohâg.	Qena.	Isna.	Aswân.	Zagazig E.L.C. Camp.	TOTAL.
9	2	18	—	—	—	5	11	—	33	21	31	5	4	3	394
1	—	—	—	—	—	1	—	—	1	3	3	2	—	—	28
10	21	30	—	—	—	11	8	11	21	30	18	14	9	56	723
17	6	5	—	—	—	15	13	22	13	9	9	6	3	161	956
5	2	15	—	—	—	6	4	14	20	16	—	—	1	19	158
—	9	8	—	—	—	25	—	51	1	10	3	3	3	—	185
6	5	25	—	—	14	23	5	15	38	—	6	9	2	10	344
—	6	13	—	—	—	2	4	9	10	7	4	3	7	7	303
1	2	—	—	—	—	—	—	—	3	—	2	—	—	—	72
19	12	49	—	—	—	44	26	36	25	21	34	7	11	12	1,203
1	4	22	—	—	—	7	—	4	14	12	—	7	10	39	287
—	—	3	—	—	—	20	6	—	12	5	7	—	3	14	114
13	8	18	—	—	—	18	9	6	14	8	10	10	6	45	402
4	11	—	—	—	—	36	2	22	11	1	10	3	16	12	317
8	6	7	—	—	—	6	—	—	1	2	—	1	—	19	112
11	—	55	—	—	—	25	14	—	88	7	1	—	—	4	382
—	3	1	—	—	—	4	—	2	2	—	1	3	1	—	53
—	—	—	—	—	—	1	—	—	8	—	—	—	—	—	34
—	4	3	—	—	—	31	10	4	20	9	16	1	2	—	216
6	22	8	—	—	—	—	18	11	14	8	4	2	6	4	391
1	—	—	—	—	—	4	—	—	3	2	1	3	2	1	44
1	—	—	—	—	—	4	—	8	2	13	—	2	—	70	206
3	13	29	—	—	—	38	21	9	6	15	11	24	6	98	692
13	16	29	—	—	54	6	25	20	14	2	10	2	17	18	667
3	27	83	—	—	—	11	7	31	31	65	178	40	5	58	770
—	—	—	—	—	—	1	—	—	—	—	—	—	8	—	35
6	13	25	—	—	—	22	—	5	11	2	2	4	4	20	269
2	24	—	—	—	—	35	8	22	—	36	3	—	3	—	370
8	15	6	—	—	—	1	1	3	6	4	3	2	1	—	132
8	13	—	—	—	—	14	11	6	12	32	7	1	10	4	442
210	309	70	4,305	—	5,516	150	346	180	311	72	127	32	19	159	15,809
52	27	10	—	—	—	16	30	51	124	54	34	16	19	—	1,038
24	15	12	—	—	—	21	43	32	59	28	23	7	10	—	506
1	1	18	—	—	—	8	4	6	7	13	32	8	6	—	172
10	—	11	—	—	—	13	5	12	34	3	15	4	6	—	197
229	212	125	—	—	—	105	213	182	318	296	174	48	62	—	3,929
11	19	10	—	—	—	11	12	18	30	13	7	7	12	—	420
76	78	33	—	—	—	34	39	61	55	14	34	20	13	18	931
32	28	19	—	—	—	11	13	10	16	11	4	—	6	—	323
—	1	—	—	—	—	6	1	3	2	1	2	—	—	—	25
65	44	35	—	—	—	35	18	28	113	24	36	4	25	—	982
28	12	19	—	—	—	11	23	29	40	8	13	1	11	—	636
2	—	7	—	—	—	1	—	2	2	2	1	—	—	—	42
11	4	17	—	—	—	14	8	15	13	9	9	4	15	—	254
259	258	306	5,384	—	—	129	143	187	412	160	150	69	127	5	11,567
—	46	4	1,189	—	—	—	—	2	—	—	50	45	1	214	2,236
41	63	5	686	76	—	8	30	39	31	16	18	3	12	2	1,710
67	74	11	—	458	—	162	104	137	215	167	117	36	22	1	2,662
4	58	—	—	3,922	—	86	103	108	182	103	112	54	10	—	7,149
21	11	6	—	—	—	1	13	7	7	7	1	—	1	—	163
14	4	26	506	—	—	19	—	12	28	21	2	2	7	—	910
13	14	5	—	—	—	21	17	23	38	21	18	10	12	—	2,742
1,326	1,522	1,201	12,070	4,456	5,584	1,278	1,368	1,455	2,471	1,383	1,353	524	536	1,093	64,704

2.—GOVERNMENT DISPENSARIES.

TABLE XXII.—OUT-PATIENTS TREATED GRATUITOUSLY IN GOVERNMENT DISPENSARIES  
DURING 1919.

DISPENSARIES.	Number of Patients.	DISPENSARIES.	Number of Patients.
		<i>Brought forward...</i>	17,738
Rosetta ... ..	967	Beni Mazâr ... ..	2,797
El 'Atf ... ..	791	Samallût ... ..	1,496
Ityâi el Barûd ... ..	219	Abu Qurqâs ... ..	1,888
Dilingât ... ..	417	Wasta ... ..	1,391
Shubrakhît ... ..	3,223	Dairût... ..	163
Baltim (Brullus) ... ..	73	Manfalût ... ..	803
Barrage ... ..	286	Abnûb... ..	608
Fariskûr ... ..	78	Abu Tig ... ..	2,284
Tel el Kebîr ... ..	49	El Badâri ... ..	337
Kafr el Sheikh ... ..	1,333	Tema ... ..	702
Fûwa ... ..	502	Akhmîm ... ..	1,534
Abu Hummus ... ..	3,301	Girga ... ..	858
Santa ... ..	2,116	Balyâna ... ..	504
Quwesna ... ..	894	Basyûn ... ..	52
Matarîa (Manzala) ... ..	798	Nag <sup>c</sup> Hammâdi... ..	452
Kafr el Dauwâr ... ..	60	Dishna ... ..	13
El Saff ... ..	846	Qûs ... ..	396
Biba ... ..	1,004	Idfu ... ..	42
Itsa ... ..	781	El Dirr ... ..	47
<i>Carried forward</i> ... ..	17,738	TOTAL... ..	34,105

TABLE XXIII.—DISPENSARIES RECEIPTS DURING 1919.

DISPENSARIES.	RECEIPTS.		DISPENSARIES.	RECEIPTS.	
	L.E.	M.		L.E.	M.
			<i>Brought forward</i> ...	259	102
Rosetta ... ..	4	758	Beni Mazâr ... ..	10	171
El 'Atf ... ..	9	682	Samallût ... ..	8	651
Ityâi el Barûd ... ..	10	221	Abu Qurqâs ... ..	13	221
Dilingât ... ..	12	192	Wasta ... ..	13	330
Shubrakhît... ..	18	789	Dairût... ..	2	380
Baltim (Brullus) ... ..	12	080	Manfalût ... ..	6	914
Barrage ... ..	11	440	Abnûb... ..	17	410
Fariskûr ... ..	12	733	Abu Tig ... ..	11	292
Tel el Kebîr ... ..	5	268	El Badâri ... ..	10	465
Kafr el Sheikh ... ..	6	845	Tema ... ..	1	900
Fûwa ... ..	23	102	Akhmîm ... ..	20	392
Abu Hummus ... ..	1	608	Girga ... ..	26	435
Santa ... ..	18	157	Balyâna ... ..	15	706
Quwesna ... ..	18	257	Basyûn ... ..	17	904
Matarîa (Manzala) ... ..	26	550	Nag <sup>c</sup> Hammâdi... ..	24	387
Kafr el Dauwâr ... ..	16	138	Dishna ... ..	10	578
El Saff ... ..	21	745	Qûs ... ..	4	671
Biba ... ..	26	537	Idfu ... ..	16	770
Itsa ... ..	3	000	El Dirr ... ..	2	966
<i>Carried forward</i> ...	259	102	TOTAL... ..	494	645



### 3.—CHILDREN'S DISPENSARIES.

All the dispensaries were working at the commencement of the year, but owing to the disturbances in March only Port Said, Zagazig, Damanhûr, and Wasta were able to remain open; all the others being closed for periods varying from a few weeks to six months.

The attendances remain high, and there is no diminution in the appreciation of the poor women for the advice and treatment received.

Some adverse criticism has lately been directed against the dispensaries by certain persons who do not sufficiently appreciate the fact that these institutions are teaching centres for the poorer classes of women (who can best be reached through the sick children) as well as for the relief of minor ailments. The critics are anxious to convert the dispensaries into hospitals in the charge of a doctor, charging a small fee as in the case of the out-patients departments of General Hospitals. This would entirely alter the function of the dispensaries and convert them from infant welfare centres where the teaching of cleanliness, correct feeding, and clothing is the main object, into out-patient clinics. This work is essentially women's work, and throughout Europe is successfully carried on by nurses assisted greatly by voluntary workers from among the residents.

No changes have been made in the buildings, but the Port Said Dispensary has returned to its own premises which had been taken over temporarily for use as a boys' school.

All the dispensaries have benefited greatly by a generous gift of goods from the British Red Cross Society. These have been distributed equally throughout and have been much appreciated by the Presidents of the Provincial Councils and Municipalities as well as by the matrons.

#### STAFF.

Four hospital trained midwifery nurses have been appointed; their duties will be to inspect the native midwives who have been trained at the Maternity Centres and to do emergency duty in charge of dispensaries and *Dayas* Schools in case of need. One nurse who joined in September has already done good work in inspecting the women who passed through the Cairo *Dayas* Training School in 1912-1914, and finds that an encouraging proportion of the pupils are still working on the lines of the teaching received. The three other sisters only joined late in the year, and it is expected that they will shortly commence routine inspection in the provinces.

TABLE XXIV.—STATISTICS OF 1919.

DISPENSARY.	New Cases.	Old Cases.	Total Attendances.	Period.
Damanhûr ... ..	10,565	29,718	40,283	297 days
Tanta* ... ..	6,517	25,915	32,432	260 "
Mansûra ... ..	4,202	11,035	15,237	207 "
Zagazig ... ..	1,785	9,891	11,676	295 "
Shibîn el Kôm ... ..	971	4,717	5,688	82 "
Giza ... ..	3,669	19,085	22,754	239 "
Faiyûm ... ..	4,211	14,136	18,347	262 "
Beni Suef ... ..	3,927	20,629	24,556	222 "
Biba ... ..	2,993	17,728	20,721	232 "
Wasta ... ..	2,948	12,258	15,206	286 "
Minya ... ..	2,306	8,690	10,996	123 "
Asyût ... ..	4,137	14,794	18,931	209 "
Port Said ... ..	7,153	47,235	54,388	294 "
TOTAL ... ..	55,384	235,831	291,215	Average. 231 days.
Total in 1914 ...	47,601	202,088	294,689	—
Total in 1915 ...	48,923	206,159	255,082	—
Total in 1916 ...	70,223	320,587	390,810	293 days.
Total in 1917 ...	69,233	314,474	383,707	295 days.
Total in 1918 ...	70,061	312,188	382,249	289 days.
Total in 1919 ...	55,384	235,831	291,215	231 days.
Increase or decrease ...	— 14,677	— 76,357	— 91,031	—58 days.

\* Tanta Dispensary has not been under the inspection of this Department.

TABLE XXV.—CLASSIFICATION OF CASES.

CASES.	Damanhûr.	Tanta.*	Mansûra.	Zagazig.	Shibîn el Kôm.	Giza.	Faiyûm.	Beni Suef.	Biba.	Wasta.	Minya.	Asyût.	Port Said.
Eyes ... ..	32	—	73	344	21	51	74	51	807	561	740	1,234	1,907
Skin ... ..	1,336	757	616	340	269	906	508	749	448	499	299	675	574
Ears ... ..	104	197	137	81	44	119	139	153	110	94	49	13	209
Chest ... ..	812	887	872	138	183	757	614	655	255	377	210	343	575
Abdomen ... ..	5,956	3,145	1,150	715	313	1,523	1,334	1,580	1,246	1,343	600	1,342	3,139
Surgical ... ..	110	210	152	87	48	114	58	61	29	19	—	259	516
General ... ..	2,163	1,265	1,133	75	81	156	1,334	660	97	51	398	240	169
Infectious ... ..	52	56	69	5	12	43	150	18	1	4	10	31	64
Total number of new cases	10,565	6,517	4,202	1,785	971	3,669	4,211	3,927	2,993	2,948	2,306	4,137	7,153
Number of old cases ... ..	29,718	25,915	11,035	9,891	4,717	19,085	14,136	20,629	17,723	12,258	8,690	14,794	47,235
TOTAL... ..	40,283	32,432	15,237	11,676	5,688	22,754	18,347	24,556	20,716	15,206	10,996	18,931	54,388
Number of working days	297	260	207	295	82	239	262	222	232	286	123	209	294

\* Tanta Dispensary has not been under the inspection of this Department.

TABLE XXVI.—COST PER PATIENT DURING THE YEARS 1917 AND 1918.

	1917.	1918.
Damanhûr ... ..	$\frac{\text{L.E. } 469 \cdot 119}{12,855} = \text{P.T. } 3 \cdot 6$	$\frac{\text{L.E. } 544 \cdot 385}{33,472} = \text{P.T. } 1 \cdot 6$
Tanta ... ..	$\frac{\text{L.E. } 473 \cdot 839}{38,758} = \text{P.T. } 1 \cdot 2$	$\frac{\text{L.E. } 627 \cdot 010}{36,085} = \text{P.T. } 1 \cdot 7$
Mansûra ... ..	$\frac{\text{L.E. } 540 \cdot 712}{19,078} = \text{P.T. } 2 \cdot 8$	$\frac{\text{L.E. } 660 \cdot 377}{27,830} = \text{P.T. } 2 \cdot 4$
Zagazig ... ..	$\frac{\text{L.E. } 722 \cdot 941}{20,515} = \text{P.T. } 3 \cdot 5$	$\frac{\text{L.E. } 700 \cdot 065}{14,848} = \text{P.T. } 4 \cdot 7$
Shibîn el Kôm ... ..	$\frac{\text{L.E. } 539 \cdot 011}{33,533} = \text{P.T. } 1 \cdot 6$	$\frac{\text{L.E. } 575 \cdot 583}{28,568} = \text{P.T. } 2 \cdot 0$
Giza ... ..	$\frac{\text{L.E. } 616 \cdot 444}{42,800} = \text{P.T. } 1 \cdot 4$	$\frac{\text{L.E. } 619 \cdot 403}{53,933} = \text{P.T. } 1 \cdot 1$
Faiyûm ... ..	$\frac{\text{L.E. } 557 \cdot 853}{21,407} = \text{P.T. } 2 \cdot 6$	$\frac{\text{L.E. } 594 \cdot 584}{20,878} = \text{P.T. } 2 \cdot 8$
Beni Suef ... ..	$\frac{\text{L.E. } 650 \cdot 869}{31,400} = \text{P.T. } 2 \cdot 1$	$\frac{\text{L.E. } 693 \cdot 332}{30,614} = \text{P.T. } 2 \cdot 3$
Biba ... ..	$\frac{\text{L.E. } 343 \cdot 387}{26,661} = \text{P.T. } 1 \cdot 3$	$\frac{\text{L.E. } 353 \cdot 312}{25,430} = \text{P.T. } 1 \cdot 4$
Wasta ... ..	$\frac{\text{L.E. } 343 \cdot 387}{22,631} = \text{P.T. } 1 \cdot 5$	$\frac{\text{L.E. } 353 \cdot 312}{20,264} = \text{P.T. } 1 \cdot 7$
Minya... ..	$\frac{\text{L.E. } 726 \cdot 818}{28,788} = \text{P.T. } 2 \cdot 5$	$\frac{\text{L.E. } 698 \cdot 165}{25,717} = \text{P.T. } 2 \cdot 7$
Asyût ... ..	$\frac{\text{L.E. } 733 \cdot 464}{45,954} = \text{P.T. } 1 \cdot 6$	$\frac{\text{L.E. } 529 \cdot 851}{361,039} = \text{P.T. } 1 \cdot 5$
Port Said ... ..	$\frac{\text{L.E. } 507 \cdot 904}{39,327} = \text{P.T. } 1 \cdot 3$	$\frac{\text{L.E. } 527 \cdot 338}{28,498} = \text{P.T. } 1 \cdot 9$



#### 4.—SCHOOLS FOR *DAYAS* AND MATERNITY HOMES.

The seven training centres have been working through part of the year, though the March disturbances necessitated them all being closed for longer or shorter periods, so that only an average of 163 working days was obtained, but a total of 2,223 cases were attended (a larger number than in any previous year); but only 59 *dayas* were trained, all of whom received the usual certificate.

The improved method of selection of candidates is bringing in a better and more receptive type of pupil, the standard of intelligence in the Delta towns being considerably above that of the women in Upper Egypt.

That considerable public interest is being taken in the need for an improved type of midwife in the country is shown by the large number of appeals to the Department for help from residents in cases of malpractice and notification of women who are physically unfit carrying on their work, also requests for training from women in districts where no Maternity Centre exists. It is hoped that by the passing of a Midwives Act and the opening of a Cairo Training Centre many reforms may be carried out.

#### BUILDINGS.

The necessary buildings are still vacant at Beni Suef and Asyût, but the Provincial Councils have not yet agreed to open the schools. The Council at Zagazig have authorized the extension of the accommodation for the school, which was previously very cramped, and the sanitary installation is now being supervised.

The medical help given by the doctors to the schools is much appreciated both in difficult cases and in lectures. The number of abnormal cases in 1919 was 382 out of a total of 2,223, a proportion of about seventeen per cent. It is gratifying to note the results of training in the earlier recognition of abnormal presentations and complications and thus help is sought during the first stages of labour and not only after many days have elapsed and the patient is practically moribund.

The matrons and pupils paid 21,209 visits in the patients' own homes, but a great deal of night work has necessarily been curtailed owing to the disturbed state of the towns.

The number of in-patients was 27, a decrease on the number for last year.

Many women still apply for treatment for gynæcological troubles, and in some districts the proportion of women suffering in this respect is estimated at about seventy per cent. The prejudice against seeking assistance at a general hospital is still very strong.

Great help could be given to the work of the schools by the formation of Ladies' Benevolent Societies in each province, as the cases of real distress met with by the matrons are numerous, and very little can be done for them besides professional assistance. The gift or loan of suitable clothing at these times would be a most valuable aid in treatment, besides helping in many other ways, and bring these institutions more into line with the Infant Welfare Centres of America and Europe.

TABLE XXVII.—STATISTICS OF 1919.

CASES.	Damanhûr.	Mansûra.	Zagazig.	Shibîn.	Faiyûm.	Minya.	Sohâg.	Total.
Abortions ... ..	—	20	6	3	12	3	9	53
Deliveries ... ..	259	133	342	69	338	105	84	1,330
B.B.A.... ..	39	8	4	8	8	29	36	132
Primipara ... ..	49	43	84	14	83	21	34	328
Abnormal or complicated...	6	9	27	2	57	10	11	122
Premature births ... ..	9	9	22	4	30	6	9	89
Still-born ... ..	8	10	21	3	24	7	7	80
Deaths } Mother ... ..	—	4	2	1	4	—	2	13
} Child... ..	6	5	7	—	24	4	3	49
In-patients... ..	1	1	7	—	6	3	9	27
Total number of cases ...	377	242	522	104	586	188	204	2,223
Number of visits of matrons and <i>dayas</i> ... ..	2,744	2,597	7,490	503	3,626	2,086	2,163	21,209
Number of working days...	150	173	185	45	273	117	194	Average. 163
Number of <i>dayas</i> trained...	8	11	11	9	15	—	5	59

TABLE XXVIII.—ANALYSIS OF ABNORMAL CASES DURING 1919.

CASES.	Damanhûr.	Mansûra.	Zagazig.	Shibîn el Kôm.	Faiyûm.	Minya.	Sohâg.	TOTAL.
<i>Multiple Births:—</i>								
Twins ... ..	12	6	6	1	15	1	—	41
Triplets ... ..	—	—	—	—	1	—	—	1
<i>Abnormal Presentations:—</i>								
Breach ordinary ... ..	15	4	4	—	9	—	—	32
" difficult ... ..	—	—	2	—	2	5	4	13
Footling ... ..	—	—	3	—	—	—	—	3
Face ... ..	1	2	1	—	3	3	2	12
Transverse ... ..	1	2	1	—	3	—	—	7
Cord ... ..	—	—	2	—	2	—	—	4
Brow ... ..	1	—	—	—	—	—	—	1
Unreduced O.P. ... ..	—	—	—	—	2	—	—	2
<i>Instrumental Deliveries:—</i>								
Forceps ... ..	1	1	1	—	6	5	4	18
Craniotomy or perforation ... ..	—	—	1	—	3	—	—	4
Cæsarian section ... ..	—	—	1	—	2	—	—	3
<i>Complications:—</i>								
Post-partum hæmorrhage ... ..	2	1	7	—	5	1	—	16
Ante-partum       " ... ..	1	—	3	—	3	—	—	7
Placenta previa ... ..	—	—	—	—	1	1	—	2
Retained and adherent placenta...	—	3	4	—	4	1	—	12
Uterine inertia ... ..	—	—	6	—	7	—	—	13
Contracted pelvis ... ..	2	1	1	—	5	—	1	10
Laceration of perineum ... ..	—	—	1	—	2	—	—	3
Hydramnios ... ..	—	—	—	—	4	—	—	4
Eclampsia ... ..	—	2	3	—	2	—	—	7
Hydatiform mole ... ..	—	—	1	—	2	—	—	3
Talipes ... ..	—	—	—	—	2	—	—	2
Ascites in infant ... ..	—	—	—	—	—	1	—	1
Anencephalic monster ... ..	—	—	—	—	3	—	—	3
Hydrocephalus ... ..	—	—	—	—	1	1	1	3
Cleft palate and harelip ... ..	—	—	—	—	1	—	—	1
<i>Premature Births:—</i>								
Viable ... ..	9	8	16	4	31	7	8	83
Non-viable ... ..	—	19	11	3	8	2	7	50
<i>Illnesses complicating Puerperium:—</i>								
Pelvic abscess ... ..	—	—	1	—	—	—	—	1
Dysentery ... ..	—	—	—	—	1	—	—	1
Fever undiagnosed ... ..	—	—	3	—	—	—	—	3
Puerperal fever ... ..	—	3	1	1	5	1	—	11
Spanish fever ... ..	—	1	1	—	5	2	2	11
Typhus       " ... ..	—	—	1	—	—	—	—	1
Abscess of breast ... ..	—	—	1	—	—	—	—	1
Relapsing fever ... ..	—	—	—	—	1	—	—	1
General œdema .. ..	—	—	—	—	1	—	—	1
Plague ... ..	—	—	—	—	1	—	—	1
Pneumonia ... ..	—	—	1	2	—	—	—	3
Gen. peritonitis ... ..	—	—	2	—	—	—	—	2
Erysipelas ... ..	—	—	—	—	1	—	—	1
Typhoid fever ... ..	—	—	—	—	1	—	—	1
Phthisis ... ..	—	—	—	—	—	1	—	1
Smallpox ... ..	—	—	2	1	—	—	—	3
<i>Maternal Deaths:—</i>								
Undiagnosed fever ... ..	—	1	1	—	—	—	—	2
Spanish fever ... ..	—	—	—	—	1	—	2	3
Gen. peritonitis ... ..	—	—	1	—	1	—	—	2
Eclampsia ... ..	—	2	1	—	2	—	—	5
Puerperal fever ... ..	—	1	—	—	—	—	—	1
Pneumonia ... ..	—	—	—	1	—	—	—	1
Exhaustion after labour ... ..	—	1	—	—	—	—	—	1
<i>Infant Mortality:—</i>								
Born dead ... ..	5	10	12	4	18	6	5	60
Died after delivery ... ..	6	3	5	—	21	4	3	42
TOTAL ... ..	56	71	108	17	188	42	39	521
Total number of cases attended...	377	242	522	104	586	188	204	2,223



TABLE XXIX.—NUMBER OF “DAYAS” WHO PASSED EXAMINATION AND THOSE WHO FAILED IN 1919.

	Passed.	Failed.	Total.
Damanhûr ... ..	8	—	8
Mansûra ... ..	11	—	11
Zagazig ... ..	11	—	11
Shibîn el Kôm ... ..	9	—	9
Faiyûm ... ..	15	1 died	16
Sohâg ... ..	5	—	5
TOTAL ... ..	59	1 died	60

Number of Egyptian midwives who attended midwifery course in the maternity  
homes ... .. 60  
Number of those who passed the examination ... .. 59  
„ „ failed ... .. Nil.

### III.—REPORT ON SECTION III.

#### OPHTHALMIC HOSPITALS.

The number of new patients treated at these hospitals last year was 76,525, the number of operations performed was 49,974, and the total attendances of out-patients was 906,961.

This work was carried out at the eighteen hospitals which have been established in the country districts since, in 1903, Sir Ernest Cassel made his gift of L.E. 40,000, which was the inception of the undertaking. Fourteen of the hospitals have been built and equipped at a cost of L.E. 65,000,\* which has been mainly raised in the towns and villages of Egypt by public subscriptions among the Egyptians themselves, or from the funds of the Provincial Councils. Eleven of them are maintained by the Government and five by the Provincial Councils. Since March 1919 a sum of L.E. 13,000 has been raised by the Mudir of Qalyûbiya Province by voluntary subscriptions to build a hospital, now nearly completed, at the capital town, Benha, which will be maintained by the Government. Five of the hospitals are travelling camps under canvas; it is owing to the reputation gained by them that Egypt has learnt to value the means of ophthalmic relief and to obtain it by building permanent hospitals. The annual cost of the whole system of hospitals, including expenses of administration, is L.E. 36,107, of which the Provincial Councils contribute L.E. 3,560.

The need for ophthalmic treatment has two entirely separate origins. The first is the prevalence of a chronic disease of the membrane lining the eyelids, trachoma, and the other is a group of acute contagious ophthalmias which are the main cause of blindness in Egypt. More than 12,000 patients who sought treatment at the hospitals during 1919 were blind in one or both eyes: this is fifteen per cent of the new patients. A system of prophylaxis has yet to be discovered. The clinical research work which is being carried out at the ophthalmic laboratory, at the ophthalmic hospitals, and at the ophthalmic clinics of each of the Government primary schools all over Egypt, should eventually shed some light on prophylactic measures. The importance of obtaining treatment for babies and children attacked by ophthalmia is beginning to be recognized by the people; more than six per cent of all patients treated were under the age of one year, and thirty-nine per cent were under the age of fifteen years.

A complete course of post-graduate lectures, including pathological and bacteriological demonstrations and lantern slides of the principal diseases, were given by the Director, with the assistance of the two Egyptian inspectors during the year. The surgical staff, which should consist of forty-three officers, is deficient to the extent of two inspectors and four surgical officers: this shortage hampers new work considerably.

Each of the fourteen provinces is now provided with an ophthalmic hospital, except Qena and Aswân. Qena has laid by some thousands of pounds for the purpose, and is considering the issue of an appeal for subscriptions. The sum necessary for providing a hospital at Aswân has been demanded from the Government, as this province is too poor to provide the requisite sum.

The provision of a special ophthalmic hospital for Cairo is urgently required for three reasons. First, because there is insufficient ophthalmic out-patient relief available for the thousands in Cairo who suffer, more especially during the hotter months, from painful and destructive diseases of the eye. It ought to be known more widely that it is impossible with the existing hospital facilities of Cairo† to cope with the vast number of patients who come to hospital demanding operations to relieve inward growing eyelids and eyelashes, one of the cicatricial results of trachoma; 24,611 such operations were performed at the ophthalmic hospitals on out-patients and cured during the year. The hospital should be centrally situated, equipped with one hundred beds, and be able to treat 2,000 out-patients daily in the summer. Secondly, the important post-graduate teaching which is carried out by the Director and inspectors is hampered by the inadequate accommodation afforded by the tent hospital at Gîza. Thirdly, the clinical research work‡ has insufficient facilities both as regards the number of patients available for study and as regards laboratory accommodation.

\* The actual amount raised locally for capital expenditure on ophthalmic hospitals is L.E. 69,128, in addition to the gift of Sir E. Cassel.

† This is equally true of the country districts.

‡ Some of the earlier results are embodied in a text book published in 1913, "Trachoma and its Complications in Egypt" (Cambridge University Press).



TABLE XXX.—SYNOPSIS ON WORK OF HOSPITALS SINCE 1904.

Hospitals in existence:—													
	*1904 to 1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
Travelling ... ..	2	2	2	2	3	4	5	4	—	4	4	5	5
Permanent ... ..	—	1	1	1	2	4	7	10	11	13	13	13	13
New patients treated ... ..	21,937	7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304	81,529	82,316	76,525
Total attendance of out-patients ... ..	306,753	132,278	177,761	190,247	236,411	341,211	544,267	686,012	735,919	849,366	903,751	922,614	906,961
Operations performed ... ..	16,402	6,426	9,930	11,486	14,322	21,315	30,648	40,710	42,146	54,205	59,581	54,277	49,974
In-patients ... ..	578	208	390	443	678	909	1,807	2,071	2,274	2,454	2,847	3,264	3,613
Details:—													
Patients examined ... ..	...	19,614	22,373	25,514	31,274	43,668	62,233	75,398	71,930	94,447	100,410	90,668	83,577
Patients regularly treated ... ..	...	7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304	81,529	82,316	76,525
Incurable cases... ..	...	4,550	2,302	1,776	2,620	7,200	9,544	10,554	7,765	9,871	9,675	5,650	4,467
Blind in one eye ... ..	...	1,189	2,116	2,438	3,196	4,115	5,360	6,425	5,637	7,042	9,385	8,969	8,537
Blind in both eyes ... ..	...	852	1,385	3,010	2,811	2,824	3,878	3,591	2,992	3,504	4,611	4,261	4,278
Trichiasis cases examined ... ..	...	8,159	10,060	7,507	7,871	13,176	17,329	21,624	19,220	22,214	27,341	26,164	20,052
“ cases operated on and cured ... ..	...	2,262	3,128	2,022	3,933	6,942	11,700	16,542	19,149	26,094	30,200	28,890	24,611
New patients treated per age:—													
Under 1 year ... ..	...	247	516	457	761	1,495	2,700	2,472	3,023	4,031	5,168	6,434	4,824
From 1 to 5 years ... ..	...	585	1,645	1,497	1,903	3,317	4,631	6,394	5,762	7,865	7,938	8,607	8,562
“ 6 “ 10 “ ... ..	...	902	1,442	4,469	2,101	3,210	4,786	5,634	5,229	6,985	9,217	9,213	9,097
“ 11 “ 15 “ ... ..	...	849	1,294	1,475	2,051	3,056	3,799	4,570	5,651	6,275	7,965	8,483	7,479
“ 16 “ 20 “ ... ..	...	829	1,156	1,499	2,067	2,588	3,253	3,949	4,491	5,752	6,748	6,826	6,159
“ 21 “ 40 “ ... ..	...	2,584	3,775	4,845	6,116	8,167	12,679	17,257	18,492	23,017	28,028	26,904	25,671
“ 41 and over ... ..	...	1,798	2,206	3,100	5,589	6,196	8,822	9,850	10,104	14,379	16,465	15,849	14,733

\* In 1904 there was only one travelling ophthalmic hospital.

## IV.—REPORT ON SECTION IV.

### 1.—INFECTIOUS DISEASES.

The chief features to be noted in connection with epidemic diseases in Egypt during 1919 are :—

- (1) The large incidence of smallpox.
- (2) A notable decrease in the incidence of typhus and relapsing fever cases as compared with 1916, 1917, and 1918.
- (3) The persistence of the influenza epidemic of 1918 into the first two months of 1919.
- (4) A severe and fatal epidemic of malaria at Derr Markaz, Aswân Province.
- (5) An increase in the mortality rate of most of the important infectious diseases caused presumably by non-reporting of cases due to the disturbed internal conditions in the spring and early summer.

#### (a) TYPHUS FEVER.

The following table shows the number of typhus cases reported during the last seven years :—

TABLE XXXI.—COMPARATIVE FIGURES OF TYPHUS FEVER CASES.

YEAR.	Cases.	Deaths.	Percentage Death Rate.
1913... ..	4,936	1,438	28·9
1914... ..	9,508	2,533	26·6
1915... ..	17,096	4,216	25·2
1916... ..	30,507	7,096	23·2
1917... ..	18,569	4,174	22·4
1918... ..	24,953	6,589	26·4
1919... ..	16,970	5,569	32·8

The declension in the number of cases in 1919 as compared with 1918 is considerable, but the position is not so satisfactory as this difference if taken by itself would indicate, for it will be noticed that the death-rate has risen from 26·4 per cent to 32·8 per cent. There is no reason to believe that the disease has taken on an increased severity, and this rise in the death-rate is probably due to non-notification of cases as a result of the disturbed condition of the country during the spring and early summer, the period at which this disease is at its height.

#### (b) RELAPSING FEVER.

The remarks made as regards typhus apply with equal force to this disease, the decline in the number of cases being more apparent than was actually the case.

TABLE XXXII.—COMPARATIVE STATISTICS OF RELAPSING FEVER CASES.

YEAR.	Cases.	Deaths.	Percentage Death Rate.
1913... ..	342	45	13·15
1914... ..	211	28	13·27
1915... ..	761	72	9·46
1916... ..	10,494	862	8·21
1917... ..	11,162	1,043	9·34
1918... ..	12,642	829	6·55
1919... ..	3,272	598	18·24



(c) SMALLPOX.

This disease assumed an unusually high incidence in February. A vaccination campaign was at once begun, but owing to the disturbances in the country and the interruption of communications this campaign was stopped.

The number of cases reported in March, April, and May was much below the presumable number of cases occurring. In June, however, as conditions became more normal, the reporting became much better and has remained at its usual standard since then. As soon as possible after conditions had become normal the general vaccination campaign was restarted. The number of persons revaccinated during the year was, roughly, 2,500,000. The campaign was uncompleted at the end of the year, but was then in full swing. During the carrying out of this work many cases of the disease were discovered in the villages by the vaccination gangs.

The number of cases reported in 1919 is the largest during the last ten years. The following table shows the number of cases and deaths recorded during that period :—

TABLE XXXIII.—COMPARATIVE STATISTICS OF SMALLPOX CASES.

YEAR.	Cases.	Deaths.	Percentage Death Rate.
1910 ... ..	3,066	561	18·30
1911 ... ..	2,758	572	20·73
1912 ... ..	1,985	456	22·97
1913 ... ..	2,934	706	24·06
1914 ... ..	7,097	1,564	22·03
1915 ... ..	5,222	1,262	24·16
1916 ... ..	2,972	902	30·35
1917 ... ..	1,567	409	26·10
1918 ... ..	1,198	306	25·54
1919 ... ..	7,895	1,926	24·39

Of the 7,895 cases which were reported during 1919, 1,569 occurred in Cairo, 660 in Alexandria, and 857 in Gharbiya Province.

(d) MALARIA.

A very severe and fatal epidemic of malaria occurred in Derr during 1919.

The first intimation the Department received that there was a fatal epidemic in Derr Markaz was the fact that the death-rate had increased in this Markaz. Reports gave the cause of the epidemic as being either influenza or malaria. It may be noted here that this district was not as heavily infected with influenza during the outbreak of 1918–1919 as the rest of Egypt. A large number of blood films which showed positive malaria were received by the Central Laboratories during November and December 1919. It was also noted that among the blood films were some taken from women. Berberine women do not travel far and seldom leave their own villages. This helped to strengthen the suspicion of a local and very fatal epidemic of malaria.

One of the Divisional Inspectors of the Department was detailed to investigate and report on the epidemic. He established the diagnosis of malaria and found practically the whole of the Markaz south of Derr town infected and the death-rates enormously increased. Abu Simbel, which was the most heavily infected place, had a death-rate for November of over 400 per thousand of the population per annum.

Major Gilmour, M.C., was sent to Derr to direct and supervise the measures against the disease, and he remained there for more than a month until the epidemic had been got well in hand.

Active treatment of the sick with quinine was started. Two Medical Officers, in addition to the Markaz Medical Officer, were sent to take over the anti-malaria work. Distributors of quinine were appointed in the infected districts. Large supplies of milk and arrowroot were sent. Reluctance to take quinine on the part of the inhabitants



(specially women) had to be overcome. The breeding places of the mosquito were searched for. These were found in irrigation wells and *zîrs*. Anti-mosquito measures were begun and are being actively carried out.

*Extent of Area infected.*—The area infected extended from Korosko in the north to the southern limit of Egypt in the south, and is a distance of, roughly, 106 kilometres of river. In this area are seventeen districts on one or other side of the river. No district escaped infection, but the degree of infection varied. In a few the infection was light. In many places so many of the inhabitants were ill that all work stopped in the fields. In one place (Ibrim), even the dead lay unburied in houses for two or three days as there were no able-bodied people to dig graves and bury them.

*Source of Infection.*—There is no evidence to show that the disease was imported to any district either from the Sudan or from Palestine.

*Breeding Places of Mosquitoes.*—The breeding places of mosquitoes were searched for in most of the infected districts. Larvæ were found in wells and in some *birkas*.

*Preventive Measures taken.*—The efforts made towards stopping the epidemic were directed against the breeding places of mosquitoes. A survey of each district was made, and the breeding places or potential breeding places of mosquitoes were noted.

It has been shown that irrigation wells were the important breeding places. An inspection of the wells was made with the *Omda* and *Sheikhs* in each district, and the necessary instructions were given on the spot, *i.e.* covering or filling in of unused wells, covering in most cases of unworked *saqias*, stocking with fish of working *saqias* and wells. Orders were also given for the filling in of *birkas*.

A passenger control station was instituted at Shellal as soon as the epidemic started. All passengers coming from Derr were examined and their addresses taken and sent to the Medical Officers of their destinations to whom instructions were sent to treat free of charge all persons coming from Derr who fell sick with fever.

*Anti-Malaria Commission.*—During the year the various sub-committees of the Anti-malaria Commission continued their work, though a considerable delay in the carrying out of operations was caused by the revolution. The Commission had at their disposal L.E. 21,000 for the year, and this was spent on the lines laid down in their preliminary report in the following districts :—

	L.E.
Cairo and District ... ..	5,000
Canal Zone ... ..	1,739
Principal Mudîriya towns ... ..	10,161
Oases ... ..	2,100

L.E. 1,000 was allotted for a survey of the mosquitoes of Egypt. This work was practically finished by the end of 1919 and the results will be published by the Commission as soon as they have been collated.

The following table shows the number of cases of the disease reported during the year 1919 :—

TABLE XXXIV.—MALARIA CASES DURING 1919.

LOCALITY.	Cases.	LOCALITY.	Cases.
		<i>Brought forward</i> ...	285
Cairo ... ..	11	Sharqîyâ ... ..	24
Alexandria ... ..	4	Dakahlîya ... ..	3
Ismailia ... ..	29	Giza ... ..	—
Port Said ... ..	27	Beni Suef ... ..	2
Damietta ... ..	15	Faiyûm ... ..	28
Suez ... ..	149	Minya ... ..	18
Eastern Province ... ..	1	Asyût ... ..	11
Beheira ... ..	12	Girga ... ..	4
Gharbîya ... ..	18	Qena ... ..	5
Minûfiya ... ..	17	Aswân ... ..	1,304
Qalyûbiya ... ..	2		
<i>Carried forward</i> ...	285	TOTAL ... ..	1,684



(e) INFLUENZA.

Detailed information was given in last year's report regarding the influenza epidemic which appeared in the country in May 1918. This epidemic lasted till February 1919. The disease, having reached its zenith in the first week of December 1918, practically disappeared by the beginning of February.

In February 1919 the disease was made compulsorily notifiable. The main reason which led the Department to obtain the necessary legal power was that, with the advent of the typhus fever season overlapping the end of the influenza epidemic, there was a possibility of typhus fever being diagnosed as influenza to escape the obligation to notify.

Since the decree making the notification of influenza obligatory was passed, 2,106 cases were notified.

(f) PLAGUE.

The total number of declared cases of plague in 1919 was 877, as compared with 357 in 1918, 732 in 1917, and 1,702 in 1916.

The number of deaths in 1919 was 473, showing a mortality-rate of 53·9 per cent, as compared with 153 or 42·8 per cent in 1918.

Of the 877 cases referred to, 737 cases were of the bubonic, 64 of the septicæmic, and 76 of the pneumonic type.

TABLE XXXV.—NUMBER OF CASES AND DEATHS FROM PLAGUE IN 1919.

Town or District.	Province.	Cases.	Deaths.
Cairo ... ..	Governorate ...	1	1
Alexandria ... ..	" ...	9	5
Suez ... ..	" ...	126	76
Port Said ... ..	" ...	40	26
Kantara ... ..	P. Saïd Govern.	14	10
Ismailiya ... ..	" ...	2	—
Minûf ... ..	Minûfiya ...	16	3
Tala ... ..	" ...	1	1
Faiyûm ... ..	Faiyûm ...	3	1
Itsa ... ..	" ...	55	24
Sinnûris ... ..	" ...	5	2
Beni Suef ... ..	Beni Suef...	7	4
Biba ... ..	" ...	17	2
Minya ... ..	Minya ...	23	5
Fashn ... ..	" ...	70	26
Beni Mazâr ... ..	" ...	9	7
Abu Qurqas ... ..	" ...	10	6
Samâllût... ..	" ...	18	9
Maghâgha ... ..	" ...	7	2
Asyût ... ..	Asyût ...	67	33
Mallâwi ... ..	" ...	224	112
Abu Tig ... ..	" ...	1	1
Deirût ... ..	" ...	12	6
Girga ... ..	Girga ...	2	2
Tahta ... ..	" ...	37	34
Balyâna ... ..	" ...	101	75
TOTAL ... ..		877	473

TABLE XXXVI.—RECAPITULATION OF PLAGUE STATISTICS, 1899-1919.

YEAR.	Cases.	Deaths.	Deaths per Cent.	YEAR.	Cases.	Deaths.	Deaths per Cent.
1899	93	45	48·0	1910	1,238	615	49·7
1900	127	60	47·2	1911	1,656	1,041	62·9
1901	205	102	49·5	1912	884	441	49·9
1902	481	291	60·0	1913	654	304	46·5
1903	303	160	52·7	1914	219	111	50·7
1904	854	501	58·6	1915	235	120	51·0
1905	266	181	68·0	1916	1,702	828	48·7
1906	631	475	75·2	1917	732	399	54·5
1907	1,253	914	72·9	1918	357	153	42·8
1908	1,511	780	51·6	1919	877	473	53·9
1909	513	207	40·5				

TABLE XXXVII.—DETAILS OF PLAGUE CASES, DURING 1919.

TOWN OR DISTRICT.	GOVERNORATE OR PROVINCE.	Existing.	NEW CASES.			Deaths in Hospital.	Cured.	Remaining.	DEATHS OUT OF HOSPITAL.			Total.
			Bubonic.	Septicæmic.	Pneumonic.				Bubonic.	Septicæmic.	Pneumonic.	
Egyptians.												
Cairo ... ..	Governorate ... ..	—	—	—	—	—	—	—	1	—	—	1
Alexandria ... ..	„ ... ..	—	4	—	—	3	1	—	—	—	—	4
Port Said ... ..	„ ... ..	—	14	—	—	7	7	—	6	—	—	20
Suez ... ..	„ ... ..	—	85	—	—	37	48	—	29	8	—	122
Ismailia ... ..	Canal Governorate ... ..	—	2	—	—	—	2	—	—	—	—	2
Minûf ... ..	Minûfiya ... ..	—	16	—	—	3	13	—	—	—	—	16
Tala ... ..	„ ... ..	—	—	—	—	—	—	—	—	—	1	1
Faîyûm ... ..	Faîyum ... ..	—	3	—	—	1	2	—	—	—	—	3
Itsa ... ..	„ ... ..	—	42	—	—	11	31	—	12	1	—	55
Sennûris ... ..	„ ... ..	—	4	—	—	1	3	—	1	—	—	5
Beni Suef ... ..	Beni Suef ... ..	—	6	—	—	3	3	—	1	—	—	7
Biba ... ..	„ ... ..	—	17	—	—	2	15	—	—	—	—	17
Minya ... ..	Minia ... ..	—	20	—	—	2	18	—	3	—	—	23
Fashn ... ..	„ ... ..	—	52	1	1	10	44	—	12	1	3	70
Beni Mazâr ... ..	„ ... ..	—	6	—	—	4	2	—	3	—	—	9
Abu Qurqâs ... ..	„ ... ..	—	7	—	—	3	4	—	3	—	—	10
Samallût ... ..	„ ... ..	—	15	—	—	6	9	—	3	—	—	18
Maghâgha ... ..	„ ... ..	—	5	—	—	—	5	—	—	—	1	6
Asyût ... ..	Asyût ... ..	—	58	—	—	24	25	9	7	2	—	67
Mallâwi ... ..	„ ... ..	—	158	10	1	57	110	2	21	33	1	224
Abu Tîg ... ..	„ ... ..	—	—	—	—	—	—	—	—	—	1	1
Deirût ... ..	„ ... ..	—	11	—	—	5	6	—	1	—	—	12
Girga ... ..	Girga ... ..	—	—	—	—	—	—	—	—	1	1	2
Tahta ... ..	„ ... ..	—	2	—	24	23	3	—	—	—	11	37
Balyana ... ..	„ ... ..	—	42	2	25	43	26	—	28	—	4	101
TOTAL ... ..		—	569	13	51	245	377	11	131	46	23	833
Foreigners.												
Alexandria ... ..	Governorate ... ..	—	4	—	1	2	2	1	—	—	—	5
Port Said ... ..	„ ... ..	—	17	—	—	10	3	4	3	—	—	20
Qantara ... ..	Port Said Governorate ... ..	—	9	5	—	10	4	—	—	—	—	14
Suez ... ..	Governorate ... ..	—	3	—	1	2	2	—	—	—	—	4
Maghâgha ... ..	Minya ... ..	—	1	—	—	1	—	—	—	—	—	1
TOTAL ... ..		—	34	5	2	25	11	5	3	—	—	44
GRAND TOTAL ... ..		—	603	18	53	270	388	16	134	46	23	877

Number of cases, 877 ; number of deaths, 473; number of cured, 388; number under treatment on December 31, 1919, 16.



TABLE XXXVIII.—MONTHLY INCIDENCE OF CASES AND DEATHS OF PLAGUE DURING 1919.

GOVERNORATE OR PROVINCE.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.		TOTAL.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Cairo Governorate	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Alexandria "	—	—	—	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	9	5
Port Said "	—	—	—	—	1	1	1	1	7	3	8	8	10	8	4	1	5	2	1	1	4	1	—	—	40	26
Suez "	—	—	18	12	40	21	47	28	14	6	5	7	—	—	—	—	—	—	—	—	2	2	—	—	126	76
Qantara, Port Said Governorate	—	—	—	—	—	—	—	—	—	—	4	2	3	3	2	1	5	4	—	—	—	—	—	—	14	10
Ismailia Canal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Minûfiya Province	—	—	—	—	—	—	—	—	—	—	7	1	9	2	—	—	—	—	—	—	—	—	—	—	17	4
Faiyûm "	—	—	—	—	—	—	13	5	33	14	16	8	1	—	—	—	—	—	—	—	—	—	—	—	63	27
Beni Suef "	—	—	—	—	—	—	1	1	16	1	4	4	3	—	—	—	—	—	—	—	—	—	—	—	24	6
Minya "	—	—	—	—	—	—	1	1	61	17	51	22	10	5	—	2	1	1	2	2	—	—	—	—	137	55
Asyût "	—	—	—	—	—	5	22	21	49	22	96	42	21	10	9	4	4	1	—	—	50	26	—	—	304	152
Girga "	—	—	37	34	3	3	3	3	66	41	22	22	9	8	—	—	—	—	—	—	—	—	—	—	140	111
GRAND TOTAL	—	—	66	54	50	30	88	60	247	105	213	116	69	36	21	8	19	11	4	4	57	30	43	19	877	473
Percentage to the grand total...	—	—	7.5	11.4	5.7	6.3	10.03	12.7	28.2	22.2	24.3	24.5	7.8	7.6	2.4	1.6	2.2	2.3	0.5	0.84	6.5	6.3	4.9	4.01	—	—
Total of Lower Egypt	—	—	18	12	41	22	48	29	22	10	24	18	25	13	6	2	14	9	2	2	7	4	2	1	209	122
Percentage to total of Lower Egypt	—	—	8.6	9.8	19.6	18.03	22.9	23.7	10.5	8.2	11.5	14.7	11.9	10.6	2.8	1.6	6.7	7.3	0.9	1.6	3.3	3.2	0.9	0.8	—	—
Total of Upper Egypt	—	—	48	42	9	8	40	31	225	95	189	98	44	23	15	6	5	2	2	2	50	26	41	18	668	351
Percentage to total of Upper Egypt	—	—	7.2	11.9	1.3	2.3	5.9	8.8	33.6	27.1	28.3	27.9	6.5	6.5	2.2	1.7	0.7	0.6	0.29	0.6	7.4	7.4	6.1	5.1	—	—

(g) ANTHRAX.

On August 10, 1919, the Army authorities notified the Department of Public Health that cases of anthrax had occurred among soldiers due to the use of shaving brushes.

Investigations made showed that these brushes were received from Kobe, in Japan.

The Department at once traced the suspected consignment, and as the bacteriological examination of specimens taken from them proved the presence of anthrax bacilli, they were destroyed.

The Department made the following arrangements :—

(1) The Residency was asked to communicate with the Japanese Government in order to secure the disinfection of hair used in manufacturing shaving brushes.

(2) The Customs Administration was requested to hold up all consignments containing shaving brushes arriving at Egyptian ports pending bacteriological examination.

(3) The following notice to the public was published in the papers :—

“ DEPARTMENT OF PUBLIC HEALTH.

“ *Anthrax and Shaving Brushes.*

“ It has lately come to the knowledge of the Department of Public Health that in this, as in several European countries, cases of anthrax have been caused by the use of infected shaving brushes. This is probably due to the fact that, owing to the dislocation of trade caused by the war, the manufacture of shaving brushes has been newly started in certain countries without the adoption of the necessary precaution to sterilize the material used. Steps are being taken to lay down the regulations necessary to prevent the importation of infected material of this nature.

“ In the meantime the public is advised that the danger may be largely minimized by the use of the following method of disinfection :—

“ The solution to be employed is made as follows :—

“ To a quarter of a litre (about an ordinary teacup) of hot water at about 70° C. (160° F.) add a teaspoonful of sodium carbonate (washing soda), a piece of soap about the size of a ten-piastre piece, and three teaspoonfuls of cyllin. Boiling water must not be used as it destroys the hair. To get a temperature of 70° C. approximately, use two parts boiling water, one part cold water.

“ Rub the brush well in the solution and leave it immersed in the solution for two hours as below.

“ The disinfection is best carried out in a shaving pot, the bristles or hairs of the brush being completely immersed in the solution. In order not to dissolve the cement of the brush, the solution ought not to reach above the joint in the handle.

“ After the above treatment the brush is to be well rinsed in running water and washed with soap before being used.

“ N.B.—If cyllin is not obtainable, lysol in the same proportion, namely, 5 per cent, may be used.

“ It is advisable that the shaving brushes bought in this country recently or in the future should be subjected to this treatment.”

(4) A draft decree and *arrêté* forbidding the admission into this country of all shaving brushes unaccompanied by certificate of disinfection are now under preparation.

Of thirteen consignments examined in 1919 five consignments were found to contain anthrax bacilli. They all came from Japan. Cases of anthrax have also occurred in England from the use of infected Japanese brushes. The occurrence is the result of war conditions. The trade in cheap shaving brushes was almost a German monopoly before the war. In that country adequate precautions were taken to disinfect the horsehair from which these brushes are made. The hair used in making the Japanese brushes would appear to be mostly Chinese hair, which is well known to be a source of anthrax,



TABLE XXXIX.—NOTIFIABLE INFECTIOUS DISEASES RECORDED THROUGHOUT GOVERNORATES AND PROVINCES OF EGYPT AND DEATHS OCCURRING THEREFROM DURING 1919.

GOVERNORATES, AND PROVINCES.		Cerebro- Spinal Meningitis.		Chicken Pox.		Cholera.		Diphtheria.		Measles.		Plague.		Relapsing Fever.		Scarlet Fever.		Smallpox.		Typhoid Fever.		Typhus.		Other noti- fiable Inf. Diseases.		TOTAL.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
GOVERNORATES.																											
Cairo	...	46	25	227	12	—	—	521	159	727	296	1	1	271	27	43	3	1,569	496	1,514	330	5,248	2,702	457	118	10,624	4,169
Alexandria	...	15	9	113	4	—	—	102	25	333	91	9	5	473	61	137	4	660	291	819	165	2,449	750	264	115	5,374	1,520
Canal } Ismailia	...	1	1	1	—	—	—	11	—	35	6	2	—	107	91	1	1	9	5	15	4	20	9	44	35	246	152
Port Said	...	2	2	14	—	—	—	4	4	47	26	54	35	105	21	4	—	39	11	51	11	37	20	99	46	456	177
Damietta	...	1	—	—	—	—	—	7	5	26	7	—	—	1	—	1	1	3	—	26	7	32	10	25	5	122	35
Frontiers Districts	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2	1
Suez	...	11	4	15	—	—	—	23	2	32	—	126	76	148	6	10	—	12	5	47	10	38	12	752	40	1,214	155
PROVINCES.																											
<i>Lower Egypt</i> :—																											
Beheira	...	—	—	—	—	—	—	21	8	93	29	—	—	59	6	—	—	407	71	4	1	2,197	345	56	9	2,837	469
Daqahliya	...	1	1	3	—	—	—	22	3	120	49	—	—	32	2	4	2	341	73	37	7	697	118	38	10	1,295	265
Gharbiya	...	2	2	1	—	—	—	41	18	1,088	616	—	—	382	36	3	1	857	110	43	6	1,709	330	164	22	4,190	1,141
Minufiya	...	1	—	12	—	—	—	53	22	207	115	17	4	813	171	—	—	781	158	10	3	807	179	94	31	2,795	693
Qalyûbiya	...	—	—	2	1	—	—	3	2	44	20	—	—	103	11	—	—	671	89	4	1	492	97	27	2	1,346	223
Sharqîya	...	—	—	1	—	—	—	27	5	34	2	—	—	62	7	6	1	420	63	12	1	465	129	85	14	1,112	222
<i>Upper Egypt</i> :—																											
Asyût	...	1	1	2	1	—	—	64	35	494	231	304	152	268	84	4	1	147	67	53	20	671	268	118	43	2,026	903
Aswân	...	—	—	2	—	—	—	4	3	1	2	—	—	21	4	1	—	56	8	9	2	237	80	325	30	656	129
Beni Suef	...	—	—	2	—	—	—	14	10	5	3	24	6	75	8	1	—	246	51	1	2	52	15	98	10	518	105
Faiyûm	...	3	3	12	8	—	—	19	8	49	3	63	27	132	11	—	—	283	71	9	3	85	25	184	15	839	174
Girga	...	—	—	2	1	—	—	11	6	11	5	140	111	29	11	—	—	313	93	14	3	232	61	9	6	761	294
Giza	...	—	—	10	1	—	—	1	1	76	40	—	—	33	1	1	1	414	101	7	2	821	163	5	5	1,368	315
Minya	...	—	—	1	—	—	—	26	10	1	—	137	55	93	8	1	—	318	73	11	5	125	39	272	73	984	262
Qena	...	—	—	31	1	—	—	16	8	160	102	—	—	169	32	—	—	349	90	15	4	555	217	116	22	1,411	476
TOTAL...	...	84	48	451	29	—	—	990	344	3,483	1,643	877	473	3,276	598	217	15	7,895	1,926	2,701	587	16,970	5,559	3,233	649	40,177	11,881

TABLE XL.—NOTIFIABLE INFECTIOUS DISEASES RECORDED THROUGHOUT THE GOVERNORATES, PROVINCES, AND DISTRICTS, AND DEATHS OCCURRING THEREFROM DURING 1919.

GOVERNORATES, PROVINCES AND DISTRICTS.		Cerebro- Spinal Meningitis.		Chicken Pox.		Cholera.		Diphtheria.		Measles.		Plague.		Relapsing Fever.		Scarlet Fever.		Smallpox.		Typhoid.		Typhus.		Other Noti- fiable Inf. Diseases.		TOTAL.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<b>Governorates.</b>																											
Cairo	...	46	25	227	12	—	—	521	159	727	296	1	1	271	27	43	3	1,569	496	1,514	330	5,248	2,702	457	118	10,624	4,169
Alexandria	...	15	9	113	4	—	—	102	25	333	91	9	5	473	61	137	4	660	291	819	165	2,449	750	264	115	5,374	1,520
Ismailia	...	1	1	1	—	—	—	11	—	35	6	2	—	107	91	1	1	9	5	15	4	20	9	44	35	246	152
Port Said	...	2	2	14	—	—	—	4	4	47	26	54	36	105	21	4	—	39	11	51	11	37	20	99	46	456	177
Damietta	...	1	—	—	—	—	—	7	5	26	7	—	—	1	—	1	—	3	—	26	7	32	10	25	5	122	35
Suez	...	11	4	15	—	—	—	23	2	32	—	126	76	148	6	10	—	12	5	47	10	38	12	752	40	1,214	155
Eastern Province	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
Oases	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinai	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Western	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—
TOTAL	...	76	41	370	16	—	—	668	195	1,200	426	192	118	1,105	206	196	9	2,292	808	2,472	527	7,825	3,503	1,642	360	18,038	6,209
<b>Provinces.</b>																											
Lower Egypt.																											
<i>Beheira</i> :—																											
Abu Hummus	...	—	—	—	—	—	—	—	6	—	—	—	—	1	1	—	—	55	8	—	—	170	9	5	—	231	18
Damanhûr	...	—	—	—	—	—	—	11	1	1	—	—	—	2	1	—	—	11	6	3	1	213	40	46	9	287	63
Dilingât	...	—	—	—	—	—	—	1	1	1	2	—	—	16	3	—	—	34	3	—	—	468	68	—	—	520	77
Kafr el Dauwâr	...	—	—	—	—	—	—	—	—	3	—	—	—	3	—	—	—	44	6	—	—	52	5	—	—	102	11
Kôm Hamâda	...	—	—	—	—	—	—	2	—	—	—	—	—	26	1	—	—	156	25	1	—	651	124	4	—	840	150
Ramleh	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	4	—	—	23	4	1	—	49	8
Rashîd	...	—	—	—	—	—	—	5	1	16	7	—	—	10	—	—	—	5	3	—	—	98	30	—	—	134	41
Shubrakhût	...	—	—	—	—	—	—	—	—	58	18	—	—	—	—	—	—	28	4	—	—	176	31	—	—	262	53
Ityâi el Barûd	...	—	—	—	—	—	—	2	—	14	2	—	—	1	—	—	—	49	12	—	—	346	34	—	—	412	48
TOTAL	...	—	—	—	—	—	—	21	8	93	29	—	—	59	6	—	—	407	71	4	1	2,197	345	56	9	2,837	469
<i>Daqahlîya</i> :—																											
Dikirnis	...	—	—	—	—	—	—	2	—	31	26	—	—	—	—	—	—	67	13	—	—	153	30	2	—	255	69
Fâriskûr	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	7	—	—	60	7
Mansûra	...	1	1	1	—	—	—	11	3	37	19	—	—	15	1	2	2	71	25	30	5	71	34	20	7	259	97
Mît Ghamr	...	—	—	2	—	—	—	8	—	27	2	—	—	10	1	2	—	153	25	3	1	243	19	5	2	453	50
Aga	...	—	—	—	—	—	—	1	—	25	2	—	—	6	—	—	—	50	10	4	1	129	23	11	1	226	37
Simbillawein	...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	41	5	—	—	42	5
TOTAL	...	1	1	3	—	—	—	22	3	120	49	—	—	32	2	4	2	341	73	37	7	697	118	38	10	1,295	265





TABLE XL.—NOTIFIABLE INFECTIOUS DISEASES RECORDED THROUGHOUT THE GOVERNORATES, PROVINCES, AND DISTRICTS, AND DEATHS OCCURRING THEREFROM DURING 1919 (contd.).

PROVINCES AND DISTRICTS.	Cerebro-Spinal Meningitis.		Chicken Pox.		Cholera.		Diphtheria.		Measles.		Plague.		Relapsing Fever.		Scarlet Fever.		Smallpox.		Typhoid.		Typhus.		Other Notifiable Inf. Diseases.		TOTAL.		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
UPPER EGYPT.																											
Asyût :—																											
Abnûb	—	—	—	—	—	—	—	—	—	—	—	—	4	1	—	—	5	5	—	—	34	9	—	—	43	15	
Abu Tig.	—	—	—	—	—	—	1	3	—	—	1	1	7	2	—	—	2	2	—	—	31	6	1	—	47	14	
Asyût	1	1	2	1	—	6	33	28	93	1	67	33	70	19	4	1	3	—	43	12	55	42	37	8	322	132	
Badâri	—	—	—	—	—	—	—	—	—	—	—	—	52	17	—	—	10	4	—	—	9	2	4	—	95	25	
Dairût	—	—	—	—	—	1	6	13	23	13	12	6	2	—	—	—	23	10	—	—	113	25	39	14	264	86	
Manfalût	—	—	—	—	—	14	212	212	357	212	—	—	—	—	—	—	56	18	8	8	234	86	12	3	698	341	
Mallâwi	—	—	—	—	—	11	6	6	11	11	224	112	40	17	—	—	45	28	2	—	195	98	25	18	557	290	
TOTAL	1	1	2	1	—	64	35	231	394	231	304	152	268	84	4	1	147	67	53	20	671	268	118	43	2,026	903	
Aswân :—																											
Aswân	—	—	2	—	—	—	2	—	1	2	—	—	21	4	1	—	37	6	4	1	157	55	125	20	351	90	
Dirr	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	5	1	2	1	172	5	181	7	
Idfu	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	17	2	—	—	78	24	28	5	124	32	
TOTAL	—	—	2	—	—	4	3	2	1	2	—	—	21	4	1	—	56	8	9	2	237	80	325	30	566	129	
Beni Suef :—																											
Biba	—	—	—	—	—	—	3	1	5	3	17	2	2	—	—	—	71	13	—	—	17	5	62	3	175	27	
Beni Suef	—	—	2	—	—	12	8	—	—	—	7	4	66	7	1	—	142	33	1	2	19	8	19	6	269	68	
Wasta	—	—	—	—	—	1	1	—	—	—	—	—	7	1	—	—	33	5	—	—	16	2	17	1	74	10	
TOTAL	—	—	2	—	—	14	10	3	5	3	24	6	75	8	1	—	246	51	1	2	52	15	98	10	518	105	
Faiyûm :—																											
Itsa	—	—	8	7	—	3	1	—	—	—	55	24	44	1	—	—	143	46	—	—	48	14	12	—	313	93	
Faiyûm	3	3	4	1	—	15	7	3	49	3	3	1	82	10	—	—	78	15	7	3	22	11	158	14	421	68	
Sinnûris	—	—	—	—	—	1	—	—	—	—	5	2	6	—	—	—	62	10	2	—	15	—	14	1	105	13	
TOTAL	3	3	12	8	—	19	8	3	49	3	63	27	132	11	—	—	283	71	9	3	85	25	184	15	839	174	



Girga :—

Akhmîm	...	...	...	...	1	—	—	3	—	—	—	—	—	—	—	—	—	17	4	1	—	—	—	—	2	—	21	4
Balyâna	...	...	...	...	5	—	—	1	8	—	—	—	—	—	—	—	—	23	10	3	1	15	7	—	1	—	173	109
Girga	...	...	...	...	2	—	—	1	3	—	—	—	—	—	—	—	—	153	40	2	1	82	26	3	3	1	258	75
Sohâg	...	...	...	...	3	—	—	2	—	—	—	—	—	—	—	—	—	39	13	8	1	84	13	3	1	1	138	30
Tahta	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	81	26	—	—	51	15	—	—	—	171	76
TOTAL	...	...	...	...	11	2	—	6	11	5	140	111	29	11	—	—	—	313	93	14	3	232	61	9	3	—	761	294

Gîza :—

El 'Aiyât	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	72	8	—	—	44	5	—	—	—	119	13
El Saff	...	...	...	...	—	—	—	—	33	—	—	—	—	—	—	—	—	48	9	—	—	—	—	—	—	—	81	38
Imbâba	...	...	...	...	—	—	—	—	41	29	—	—	—	—	—	—	—	96	21	—	—	462	59	3	3	—	629	94
Gîza	...	...	...	...	1	8	—	1	2	—	—	—	5	1	1	—	—	198	63	7	2	315	99	2	2	—	539	170
TOTAL	...	...	...	...	1	10	—	1	76	40	—	—	33	1	1	—	—	414	101	7	2	821	163	5	5	—	1,368	315

Minya :—

Abu Qurqâs	...	...	...	...	1	—	—	1	—	—	—	—	—	—	—	—	—	13	5	—	—	12	4	2	2	—	45	19
Beni Mazâr	...	...	...	...	1	—	—	1	—	—	—	—	11	1	—	—	—	32	10	—	—	6	3	2	1	—	61	23
Fashn	...	...	...	...	5	—	—	4	—	—	—	26	6	1	—	—	—	107	22	—	—	24	9	242	65	—	454	127
Maghâgha	...	...	...	...	1	—	—	—	—	—	—	2	3	2	—	—	—	41	2	—	—	7	2	1	—	—	60	8
Minya	...	...	...	...	18	1	—	4	1	—	—	5	49	3	1	—	—	86	22	11	5	49	17	25	5	—	264	61
Samallût	...	...	...	...	—	—	—	—	—	—	18	9	17	—	—	—	—	39	12	—	—	27	4	—	—	—	101	25
TOTAL	...	...	...	...	26	1	—	10	1	—	137	55	93	8	1	—	—	318	73	11	5	125	39	272	73	—	985	263

Qena :—

Dishna	...	...	...	...	1	—	—	—	2	—	—	—	—	—	—	—	—	13	8	—	—	42	10	—	—	—	58	18
Isna	...	...	...	...	3	—	—	1	6	2	—	—	9	1	—	—	—	13	5	—	—	50	19	21	1	—	105	29
Luxor	...	...	...	...	7	—	—	2	17	5	—	—	133	27	—	—	—	54	18	7	3	34	12	15	4	—	267	71
Nag' Hammâdi	...	...	...	...	—	—	—	—	8	2	—	—	2	—	—	—	—	185	33	4	—	319	107	63	16	—	583	158
Qena	...	...	...	...	5	26	—	5	58	69	—	—	13	1	—	—	—	15	4	4	1	28	25	13	1	—	162	107
Qûs	...	...	...	...	—	—	—	—	69	24	—	—	12	3	—	—	—	69	22	—	—	82	44	4	—	—	236	93
TOTAL	...	...	...	...	16	31	—	8	160	102	—	—	169	32	—	—	—	349	90	15	4	555	217	116	22	—	1,411	476

GRAND TOTAL

...	...	...	...	...	990	—	—	—	344	3,483	1,643	877	473	3,276	598	217	15	7,895	1,926	2,701	587	16,970	5,569	2,233	649	—	—	—
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## 2.—PILGRIMAGE.

Owing largely to war conditions, including difficulty in providing shipping, only 444 persons proceeded on the pilgrimage in addition to the Mahmal escort and staff which were 420 in number.

All pilgrims were vaccinated against cholera by the Mahmal Medical Officer.

No visits to Medina were made.

The health of all pilgrims was good. On arrival at Suez only four were sick: three with fever and the fourth with senility.

The result of observation was satisfactory, as only four pilgrims out of 444 were not traced.

## 3.—“ MULIDS.”

The Department gave its opinion regarding the holding of seven *mulids*, the period of each varying between seven and fifteen days.

## 4.—BARBERS.

579 barbers were given licences in 1919.

## 5.—PASSENGER AND IMMIGRANT CONTROL.

### QUARANTINE CAMPS AT QANTARA.

Reference was made in last year's report to the arrangement made with the Army whereby all local subjects passing through Qantâra into the interior of Egypt were quarantined at Qantâra for a period of five days.

In February 1919 the civil and military Cholera Commission decided that as long as Palestine, Syria, and the districts east of the Canal are free of cholera no quarantine should be imposed on Egyptians, Syrians, and local subjects proceeding to Egypt from Qantâra District, or passing through it from east of the Canal. The system of taking the addresses of these passengers for medical observation at their destinations according to Law No. 3 of 1918 was, however, continued.

The following list shows the number of men returning into Egypt *via* Qantâra in 1919, those found and those not found.

No cases of cholera occurred among these people :—

Total number	...	...	...	...	...	...	...	...	...	...	...	...	...	126,723
Observed	...	...	...	...	...	...	...	...	...	...	...	...	...	119,422
Not found	...	...	...	...	...	...	...	...	...	...	...	...	...	7,301
Percentage found	...	...	...	...	...	...	...	...	...	...	...	...	...	94.2

TABLE XLI.—PASSENGER CONTROL FIGURES DURING 1919.

	Port Saïd.	Alexandria.	Suez.	Total Passengers landed.
Found ... ..	4,800	11,399	3,327	19,526
Not found ... ..	161	129	155	445
TOTAL ... ..	4,961	11,528	3,482	19,971
Percentage found... ..	96.75	98.89	95.5	97.92



TABLE XLII.—STATISTICS OF PASSENGERS WHO LANDED IN PORT SAID FROM SHIPS COMING FROM CHOLERA-INFECTED COUNTRIES DURING 1919.

DESTINATION.	1ST AND 2ND CLASS.			3RD CLASS.		
	Found.	Not found.	Percentage of found.	Found.	Not found.	Percentage of found.
Cairo ... ..	420	33	92·71	503	79	86·42
Alexandria ... ..	161	3	93·17	274	22	92·36
Interior ... ..	40	6	86·95	309	7	97·78
Port Said ... ..	379	6	98·44	2,714	5	99·81
TOTAL ... ..	1,000	48	95·41	3,800	113	97·11

Total passengers found, 4,800. Total passengers not found, 161. Percentage of total passengers found, 96·75.

No cases of cholera occurred in Egypt during 1919.

TABLE XLIII.—ANNUAL STATISTICS OF PASSENGERS LANDED AT SUEZ FROM CHOLERA INFECTED COUNTRIES DURING 1919.

MONTHS.	Grand Total.	Traced and found in Good Health.	Not found.	Admitted to Suez Govt. Hospital.
January ... ..	129	118	8	3
February ... ..	278	268	6	4
March ... ..	463	435	17	11
April ... ..	416	377	29	10
May ... ..	224	208	10	6
June ... ..	170	155	10	5
July ... ..	236	224	11	1
August ... ..	292	270	21	1
September ... ..	205	198	4	3
October ... ..	737	713	22	2
November ... ..	214	206	7	1
December ... ..	118	105	10	3
GENERAL TOTAL ... ..	3,482	3,277	155	50

Percentage of passengers found, 95·5.

LIST OF DISEASES OF PASSENGERS ADMITTED TO THE HOSPITAL.

Smallpox ... ..	2
Chicken pox ... ..	4
Influenza ... ..	5
Malaria ... ..	2
Surgical cases ... ..	10
Medical cases ... ..	27
TOTAL ... ..	50

TABLE XLIV.—STATISTICS OF PASSENGERS WHO LANDED AT ALEXANDRIA FROM SHIPS COMING FROM CHOLERA-INFECTED COUNTRIES DURING 1919.

MONTHS.	PASSENGERS FOR CAIRO.						PASSENGERS FOR INTERIOR.						PASSENGERS REMAINED AT ALEXANDRIA.						TRANSIT PASSENGERS.						TOTAL.					
	1st and 2nd Class.			3rd Class.			1st and 2nd Class.			3rd Class.			1st and 2nd Class.			3rd Class.			1st and 2nd Class.			3rd Class.			1st and 2nd Class.			3rd Class.		
	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.	Found.	Not found.	Percentage Found.
January ... ..	16	1	94.12	26	3	89.66	11	—	100	22	—	100	78	—	100	126	1	99.22	—	—	—	—	—	—	105	1	99.06	174	4	97.76
February ... ..	21	—	100	79	9	89.78	15	—	100	51	—	100	38	—	100	150	—	100	—	—	—	49	—	100	74	—	100	360	9	97.50
March ... ..	19	—	100	61	1	98.39	14	—	100	22	2	91.67	104	1	99.05	218	—	100	—	—	—	2	—	100	137	1	99.28	303	3	99.02
April ... ..	4	—	100	33	—	100	4	—	100	113	—	100	58	—	100	204	3	98.56	—	—	—	—	—	—	66	—	100	350	3	99.16
May ... ..	1	—	100	5	—	100	—	—	—	3	—	100	26	—	100	74	2	97.37	—	—	—	6	—	100	27	—	100	88	2	97.18
June ... ..	34	3	91.90	124	2	98.42	8	—	100	227	—	100	200	—	100	253	—	100	—	—	—	—	—	—	242	3	98.78	604	2	99.67
July ... ..	31	—	100	237	—	100	10	1	90.91	170	3	98.27	85	4	95.30	402	2	99.51	1	—	—	14	—	100	127	5	96.07	823	5	99.40
August ... ..	49	3	94.24	77	1	98.72	20	—	100	54	—	100	269	—	100	352	1	99.72	—	—	—	2	2	50	338	3	99.13	485	4	99.19
September ... ..	135	11	92.47	108	3	97.30	85	—	100	127	1	99.22	330	3	99.10	459	3	99.36	1	—	—	15	—	100	551	14	97.53	709	7	99.03
October ... ..	158	5	96.94	102	—	100	105	—	100	160	1	99.39	524	3	99.44	490	4	99.20	6	3	63.67	1	6	14.29	793	11	98.64	753	11	98.57
November ... ..	327	3	99.10	234	6	97.50	188	—	100	198	1	99.50	698	—	100	645	—	100	10	9	47.06	8	—	100	1,221	12	99.03	1,485	7	99.36
December ... ..	290	13	95.71	216	3	98.64	148	1	99.33	186	1	99.47	472	—	100	654	—	100	13	2	86.67	5	2	71.43	923	16	98.30	1,061	6	99.44
TOTAL ... ..	1,085	39	96.40	1,302	28	97.90	608	2	99.68	1,333	9	99.33	2,882	11	99.62	4,067*	16	99.61	29	14	67.45	93	10	90.30	4,604	66	98.59	6,795	63	99.09

TOTAL OF SHIPS ARRIVING DURING 1919.

		<i>Brought forward</i>		111
January ... ..	24	July ... ..	69	
February ... ..	37	August ... ..	60	
March ... ..	30	September ... ..	89	
April ... ..	28	October ... ..	84	
May ... ..	50	November ... ..	62	
June ... ..	67	December ... ..	48	
<i>Carried forward...</i>		TOTAL... ..	648	

Total number of passengers { Found ... .. 11,399 } Percentage of passengers **Found, 98.89** per cent.  
Not found ... .. 129  
Total (general) ... .. 11,528

\* Including 87 passengers sent to Chatby camp and 4 to Government hospital.



## V.—REPORT ON THE PUBLIC HEALTH LABORATORIES.

### 1.—INTRODUCTION.

The total number of examinations carried out in the laboratories during the year was 15,050, of which 477 were made for the military authorities. Excluding the work done for the Army the total number of specimens examined during the year was 14,573, as compared with 20,649 specimens during 1918. During the past eleven years the figures for the regular work of the laboratories (excluding examinations made for the army) have been as follows:—

TABLE XLV.—COMPARATIVE ANNUAL STATISTICS.

YEAR.	Chemical (including Water and Milk).	Bacteriological (including Water).	TOTAL.
1909	484*	2,755	3,239
1910	1,225†	5,428	6,653
1911	581	5,193	5,774
1912	797	5,268	6,065
1913	813	6,998	7,811
1914	1,828	9,150	10,978
1915	3,870	8,277	12,147
1916	3,345	8,550	11,895
1917	3,207	10,553	13,760
1918	3,625	17,024	20,649
1919	3,603	10,970	14,573

The diminution in the number of bacteriological examinations during 1919 is mainly accounted for by a diminution of some 4,000 in the number of blood films sent from the provinces for examination for the parasites of malaria and relapsing fever in connection with outbreaks of typhus and plague. The drop in the number of specimens from the provinces was largely due to the conditions arising from the political situation during the spring of the year.

The extension of the laboratories, which has been a pressing demand for some years, was begun in the month of August by the Ministry of Public Works and a part of the foundations has been laid. It was impossible to complete the whole foundations owing to the high level of the ground water and work had to be temporarily stopped. As in view of the present prices new buildings must be limited to the minimum possible, the enlargement of the laboratories is being effected by the erection of a small building which will connect the present laboratories with the old Khedivial laboratory. The old Khedivial laboratory, which has for many years been used as a veterinary school, is not structurally suitable as a permanent laboratory building, but, if arranged as proposed, can be made to serve a useful purpose for a number of years at the expiration of which time it can be rebuilt as part of the final scheme. Arrangements have been made for the provision of storage accommodation in the basement

\* Khedivial Laboratory.

† Including 718 from Khedivial Laboratory.



of the new building, which will remedy the present unsatisfactory condition of the laboratory stores.

The whole question of the arrangement of Government laboratories and the co-ordination of their work is at present being studied by a small Government committee, of which the Director of the Public Health Laboratories is a member.

The laboratories have carried out a number of chemical examinations, mainly analyses of foodstuffs and disinfectants, for the British Forces in Egypt during the year. The military authorities having now arranged to undertake their own bacteriological work, the rôle of the Public Health Laboratories has been confined to giving help where necessary, as in the performance of a number of Wassermann reactions and the supply of certain chemicals, bacterial cultures, sera, etc.

The travelling bacteriological car belonging to the Laboratories was lent to the army throughout the year, being employed as a stationary laboratory at Tel el Kebîr.

In the course of the year a number of Medical Officers of the Department have been detailed to the laboratories for short periods in order to enable them to obtain some practical acquaintance with the nature of the work carried out.

A charge of certain irregularities brought against the chief storekeeper of the Laboratories necessitated a detailed inquiry into the Laboratory stores and occupied much time.

In connection with a request received from the Foreign Office, London, drawing attention to the report of the Departmental Committee appointed to inquire into the precautions for preventing danger of infection from anthrax in the manipulation of wool, goat hair, and camel hair, a committee, of which the Director of the Laboratories was president, was formed by the Egyptian Government to consider the application of these measures to Egypt. This Committee held a number of meetings and reported to the Government.

During the period of political difficulties in the spring, the work of the Laboratories was considerably handicapped, and, apart from the lack of communications which for a time rendered the sending of specimens from the provinces practically impossible, considerable difficulties were experienced in obtaining forage and other necessary materials.

The time is rapidly approaching when some arrangement must be made to extend the facilities for bacteriological diagnosis to certain towns in the provinces. With the exception of the City of Alexandria, the bacteriological diagnosis for the whole of Egypt is centralized in Cairo. Under this arrangement certain bacteriological diagnoses, such as diphtheria, are impossible for many parts of the country, owing to the distance from Cairo, and, apart from this difficulty, the wholesale centralization of the work is not altogether advantageous as, in the first place, there is necessarily a considerable delay in the transport of specimens, and, secondly, many of the examinations which have a definite local interest, such as the examination of water supplies, aerated waters, ice, etc., should undoubtedly, where possible, be carried out locally. It is obviously not practically possible—both for financial and other reasons—to institute at once a series of completely equipped provincial bacteriological laboratories, but a scheme has been drawn up for the gradual extension of facilities for bacteriological diagnosis to certain towns in the provinces. The proposed scheme—a copy of which is attached (p. 70)—should provide the necessary service at a reasonable cost.

At the request of the Arab Bureau a Moslem bacteriologist and a laboratory attendant from the Public Health Laboratories were sent to Jeddah with a complete outfit of a bacteriological laboratory for the diagnosis of plague and cholera and remained there during the period of the pilgrimage. The report of the bacteriologist is annexed (p. 73).

Apart from the question of diagnosis the Laboratories are constantly referred to by the different services of the Department of Public Health and other Government Administrations for advice and assistance on various questions of a scientific nature pertaining to public health, and public health projects such as water supplies, drainage installations, etc., are submitted for technical opinion. This branch of the activities of the Laboratories is becoming increasingly important and occupies a considerable amount of the time of the Director and the Sub-director.

## 2.—BACTERIOLOGICAL SECTION.

The following table gives a list of the examinations made under their several headings. The figures do not include the specimens of water examined bacteriologically; these are given in the report on the Water Service.



TABLE XLVI.—BACTERIOLOGICAL WORK DONE DURING 1919.

NATURE OF SPECIMEN.	Government.	Private.	Military.	TOTAL.
Cholera ... ..	208	—	—	208
Plague ... ..	644	1	—	645
Cerebro-spinal meningitis ... ..	2	13	—	15
Diphtheria ... ..	404	762	—	1,166
Malaria and relapsing fevers ... ..	4,274	83	1	4,358
Cultural examination for enteric ... ..	28	16	—	44
"    "    dysentery (and microscopic)... ..	20	30	—	50
Agglutination reaction for Malta fever ... ..	147	34	1	182
"    "    enteric ... ..	437	251	1	689
"    "    typhus ... ..	145	33	—	178
Influenza ... ..	50	—	—	50
Wassermann reaction ... ..	807	13	206	1,026
Gonorrhœa ... ..	377	11	—	388
Spirochæta pallida ... ..	32	—	—	32
Sputum for tubercle bacilli ... ..	163	26	—	189
Urine for bilharzia ova ... ..	13	5	—	18
Anthrax ... ..	28	—	—	28
Miscellaneous ... ..	66	19	5	90
GRAND TOTAL ... ..	7,845	1,297	214	9,356

The special cholera service has been continued throughout the year, but with the improved conditions in Syria and Palestine and the clean pilgrimage of 1919, this work has shown a great diminution on the figures of last year.

If allowance be made for the period in the spring during which, owing to the political disturbances, very little diagnostic work could be carried out, the figures for the bacteriological work show the usual annual increase. The diagnosis work of the Laboratories is carried out mainly for the city of Cairo and for the epidemic and general sanitation services of the Department of Public Health. A considerable number of examinations, however, were also made for other Government Administrations ; these are included under the general heading of " Government Examinations."

The occurrence of two cases of malignant pustule which occurred at Qantâra and were traced to anthrax-infected shaving brushes led to the examination of a large number of shaving brushes obtained from various sources in Cairo and elsewhere and to the regular examination of all consignments of shaving brushes imported into Egypt. A large number of the brushes from Japan were found to be infected with anthrax. As previous to the detection of the import of infected brushes into Egypt many of these had doubtless already come into the country, the public was warned of the risk of using such brushes and was advised of a method of sterilization best adapted to minimize the risk.

At the request of the Director of the Ophthalmic Section cultures from a number of cases of gonorrhœal ophthalmia were examined with a view to determining the nature of the coccus in these Egyptian cases. The results of this work are being published separately.

The Weil-Felix reaction has been carried out on the blood of a number of cases of definite typhus fever under observation at the Government Fever Hospital at 'Abbâsiya. This reaction, being found to be positive in some seventy per cent of cases of typhus fever, is now of considerable diagnostic value and is being carried out as a routine practice in the Laboratory.

A strain of typhus virus obtained from a patient on February 25, 1917, has been regularly passed through guinea-pigs, and at the end of the year had reached the ninety-first passage. So far the strain has shown no marked change in character as the result of continued passage and does not appear to have undergone any increase of virulence for the guinea-pig.

In connection with the reopening of the Institute for the preparation of cattle plague serum at 'Abbâsiya, assistance was given to the Ministry of Agriculture in the tests of the strength of the serum and the examination of blood.

3.—CHEMICAL SECTION.

The following chemical analyses have been performed during 1919 :—

TABLE XLVII.—CHEMICAL WORK DONE DURING 1919.

SAMPLES RECEIVED FROM	Water.	MANZÛL, HALÂWA, ETC.		BUTTER FAT.		BUTTER.		EDIBLE OILS.		Margarine.	MILK.				Epsom Salt (Magnesium Sulphate).	Drugs, etc.	Miscellaneous.	TOTAL.
		Narcotics or Alkaloids.		Genuine.	Adulterated by admixture with other Fats.	Genuine.	Containing an excessive amount of water.	Genuine.	Adulterated by admix- ture with other oils.		Genuine.	Adulterated.	Doubtful (kind of milk not stated).	Abnormal.				
		Present.	Absent.															
Govt. Administrations	50	10	8	20	10	—	2	37	3	—	724	284	19	20	2,055	146	126	3,514
General Parquet ...	—	28	14	2	2	—	2	1	—	—	—	—	—	—	—	2	5	56
Military authorities ...	15	1	4	—	—	14	18	6	1	104	4	—	3	—	—	10	62	242
Private individuals ...	2	—	—	—	—	—	1	2	—	—	—	4	1	—	—	—	12	22
GRAND TOTAL ...	67	39	26	22	12	14	23	46	4	104	728	288	23	20	2,055	158	205	3,834

The miscellaneous analyses in the preceding table are made up as follows :—

TABLE XLVIII.—DETAILS OF MISCELLANEOUS CHEMICAL ANALYSES PERFORMED DURING 1919.

NATURE OF SAMPLES.	Parquet.	Other Government Administrations.	Military.	Private.	Total.
Biscuits ... ..	—	1	3	—	4
Bread ... ..	—	17	—	—	17
Flour ... ..	5	12	20	—	37
Cheese ... ..	—	4	—	—	4
Coffee ... ..	—	2	9	—	11
Fruit and jams ... ..	—	—	4	1	5
Vinegar ... ..	—	—	2	—	2
Rice ... ..	—	11	4	—	15
Tea ... ..	—	12	1	—	13
Bleaching powder ... ..	—	58	7	—	65
Stomach contents ... ..	—	1	2	—	3
Disinfectants ... ..	—	5	—	—	5
Various ... ..	—	3	10	11	24
GRAND TOTAL ... ..	5	126	62	12	205

MILK ANALYSES.

The collection of the daily samples of milk on behalf of the Cairo City Health Inspectorate has taken place for about six months only during the whole year 1919. 838 samples were collected and a summary of the results (which are included in the table of the chemical analyses) is appended :—

TABLE IL.—MILK ANALYSES DURING 1919.

DESCRIPTION.	Number.	Percentage.
Genuine ... ..	637	78·4
Adulterated (skimmed, watered, or both)	175	21·6
Skimmed ... ..	78	9·6
Watered ... ..	58	7·2
Skimmed and watered ... ..	39	4·8
Abnormal ... ..	10	—
Doubtful (kind of milk not stated) and samples coagulated during analysis ...	16	—



The following additional analyses of milk have been performed :—

Condensed milk (Government) ... ..	11
Milk examined for mineral salts (military) ... ..	1

#### 4.—WATER SERVICE.

The number of analyses of water, aerated waters, and ice, made for all purposes during 1919, were as follows :—

TABLE L.—WATER AND ICE ANALYSES PERFORMED DURING 1919.

<i>Bacteriological.</i>	Number of Samples.	Examined for Total Bacteria.	Examined for Lactose Fermenters.
Cairo :—			
Rôd el Farag supply ... ..	435	435	435
Giza supply ... ..	260	260	260
Me'âdi supply ... ..	383	383	383
Daily samples of tap water in Cairo	312	312	—
Various supplies ... ..	21	5	21
Military supplies ... ..	16	16	16
Aerated waters :—			
Cairo ... ..	200	—	200
Ismailia ... ..	36	—	36
Port Said ... ..	121	—	121
Suez ... ..	59	—	59
Military ... ..	4	—	4
Ice: Cairo ... ..	1	1	1
TOTAL ... ..	1,848	1,412	1,536
<i>Chemical.</i>			
Public supplies ... ..	50	—	—
Military „ ... ..	15	—	—
Private „ ... ..	2	—	—
TOTAL ... ..	67	—	—

It has, unfortunately, for various reasons not yet been possible for the Department to develop this service so as to provide for a regular inspection of the drinking water supplies of the country. Regular bacteriological and chemical analyses of the Cairo supplies have, however, been carried out, and in the case of the Me'âdi and Beni Suef supplies, where some difficulties were met with, these were visited and the necessary assistance given. The regular control of aerated waters and of ice have been carried out so far as was possible with the existing staff.

#### 5.—VACCINE INSTITUTE.

The amount of vaccine lymph issued in 1919 was 5,645,020 doses, against 1,428,500 in 1918, showing an increase of 4,216,520 units. This issue was made up as follows :—

	Doses.
Public Health Inspectors ( <i>Bandars</i> ) ... ..	122,040
„ „ „ (villages) ... ..	599,640
Extra to Public Health Inspectors ... ..	3,854,090
Egyptian Army ... ..	15,380
Ministry of Waqfs ... ..	2,260
Ministry of Education ... ..	19,245
Prisons Department ... ..	15,465
Provincial Councils ... ..	575
Suez Canal Company ... ..	2,200
Alexandria Municipality ... ..	223,000
British Army ... ..	392,405
Sudan Government ... ..	203,285
Miscellaneous gratis ... ..	33,355
Miscellaneous sales ... ..	161,740
TOTAL ... ..	5,645,020

In the autumn of the year, it having been found necessary by the Department to undertake an extensive campaign of general vaccination at short notice, very large demands were suddenly made on the Vaccine Institute. The Institute, as at present arranged, is designed for an annual output of some two million doses of vaccine for Egypt and the Sudan, but for the proposed campaign an output of one million doses per month for a period of six months was considered necessary. This, unfortunately, coincided with the large extra demands for the British army and the Sudan Government as well as for Syria, Cyprus, etc.

This naturally involved a considerable temporary increase of the accommodation and staff. Temporary matting stables were erected at the Institute and the necessary vaccine was prepared, although this was only carried out with great difficulty, as at the time it was found almost impossible to obtain suitable buffalo calves in sufficient numbers. The glass tubes and phials for the despatch of the vaccine were not available in the country nor could they be obtained at short notice from Europe, so that for a time the vaccine had to be distributed in such small medicine bottles as were locally obtainable.

As the Vaccine Institute has no arrangement for cold storage, the vaccine is stored in a cold storage room which is rented by the Department for the storage of sera and vaccines. The temperature of this room, being considerably above freezing point, is not altogether suitable for the keeping of smallpox vaccine; a rise in the temperature of the storage room having given rise in 1918 to a diminution in the activity of the stored vaccine, rendering it unsuitable for issue. It has not yet been possible to arrange for storage at the desired temperature, but the cold storage room has been brought down to a temperature just above freezing point.

In the course of the year the strength of the glycerine used in the preparation of the vaccine was diminished, and in place of a mixture of one part of pulp with four parts of 75 per cent glycerine, a mixture of one part of pulp with five parts of 50 per cent glycerine was issued. This change was made on May 24.

Each batch of the vaccine before issue is tested by a special Medical Officer attached to the Inspectorate of the City of Cairo.

The results are given in the following table :—

TABLE LI.—RESULTS OF THE TESTS OF THE CALF LYMPH MANUFACTURED DURING 1919, CARRIED OUT BY THE CAIRO CITY HEALTH INSPECTORATE.

Number of Batch.	Number of Children vaccinated.	RESULTS.				
		SUCCESSFUL.				Failed.
		4 Pustules.	3 Pustules.	2 Pustules.	1 Pustule.	
49	96	81	6	5	4	0
50	102	85	10	4	1	2
51	72	56	7	5	1	3
52	62	55	5	2	0	0
53	92	80	8	4	0	0
54	55	50	4	1	0	0
55	87	86	1	0	0	0
56	40	15	9	8	7	1
57	75	69	5	1	0	0
58	107	84	22	1	0	0
59	43	17	10	10	4	2
60	83	83	0	0	0	0
61	46	36	8	1	1	0
62	38	38	0	0	0	0
63	44	40	4	0	0	0
64	60	56	3	0	0	1
65	39	31	6	2	0	0
66	89	73	4	2	4	6
<i>Carried forward</i>	1,230	1,035	112	46	22	15



TABLE LI.—TESTS OF CALF LYMPH (*continued*).

Number of Batch.	Number of Children vaccinated.	RESULTS.				
		SUCCESSFUL.				Failed.
		4 Pustules.	3 Pustules.	2 Pustules.	1 Pustule.	
<i>Brought forward</i>	1,230	1,035	112	46	22	15
67	79	60	12	2	4	1
68	116	106	3	3	1	3
69	42	42	0	0	0	0
70	52	37	3	4	1	7
71	56	41	5	3	3	4
72	79	76	0	0	0	3
73	Not tested					
74	54	46	6	2	0	0
75	52	31	9	6	1	5
76	94	89	0	0	2	3
77	43	33	2	3	1	4
78	88	67	10	0	1	10
79	20	4	2	3	2	9
80	43	40	3	0	0	0
81	46	30	12	2	0	2
82	85	77	0	3	0	5
83	84	55	11	11	5	2
84	36	33	2	0	0	1
85	79	77	0	1	0	1
86	130	74	33	10	9	4
87	46	41	4	1	0	0
88	33	7	11	1	8	6
89	54	47	4	3	0	0
90	72	32	15	13	6	6
91	29	24	3	1	0	1
92	27	25	1	1	0	0
93	43	33	4	2	1	3
94	85	77	3	2	0	3
95	32	27	1	1	1	2
96	56	47	2	3	2	2
97	85	70	6	6	2	1
98	59	50	3	2	2	2
99	38	36	0	2	0	0
100	72	52	11	4	2	3
101	72	62	6	1	2	1
102	60	47	4	3	2	4
103	47	44	3	0	0	0
104	55	47	5	1	0	2
105	43	26	8	6	2	1
106	37	28	5	0	2	2
107	28	26	0	0	1	1
108	51	38	8	1	1	3
109	44	39	2	2	0	1
110	30	25	2	1	0	2
111	45	36	3	2	0	4
112	35	32	2	0	1	0
113	41	38	2	1	0	0
114	55	47	4	1	1	2
115	47	45	2	0	0	0
116	48	44	0	3	1	0
117	48	45	2	1	0	0
118	69	61	8	0	0	0
GRAND TOTAL	4,094	3,351	359	164	89	131
Percentage ...	—	81·8	8·8	4·0	2·2	3·2

## 6.—SERUM CENTRIFUGING LABORATORY.

It having been decided to hand over the centrifuging, bottling, and issue of cattle plague serum to the Ministry of Agriculture, the centrifuges, motors, and fittings of this Laboratory were transferred in the month of August to the Serum Institute at 'Abbâsiya.

In the course of April 79,438 doses of serum, which were time-expired, were verified by animal tests and condemned, the bottles being washed and sterilized for further use. The remaining serum (5,376 doses of 50 cubic centimetres) was handed over to the Ministry of Agriculture and the building of the old serum centrifuging laboratory demolished to make room for the extension of the Laboratories.

## 7.—ANTIRABIC INSTITUTE.

In 1919 a total of 1,010 persons were treated in the Institute. From this number the following deductions should be made :—

Four persons who ceased to attend for treatment without a satisfactory reason.

One hundred and thirty-six persons whose treatment was discontinued as being unnecessary, the observation of the animal for a period of ten days or more having shown it not to be rabid.

Ten persons whose treatment, although completed, must be considered useless, the animal inflicting the bite having been proved healthy by inoculation of rabbits.

The statistics, therefore, comprise 860 patients. This figure is an increase of 101 over the number treated in 1918.

### (a) MONTHLY INCIDENCE.

The monthly incidence of the 860 cases dealt with in the statistics is shown below :—

January ... ..	79	July ... ..	77
February ... ..	53	August ... ..	74
March ... ..	77	September ... ..	59
April ... ..	43	October ... ..	104
May ... ..	84	November ... ..	65
June ... ..	68	December ... ..	77

### (b) TOPOGRAPHICAL DISTRIBUTION.

The 860 persons treated may be subdivided as follows :—

Egyptians ... ..	716
Foreigners resident in Egypt ... ..	97
Foreigners not resident ... ..	47

Their place of origin was :—

#### Governorates :—

Cairo ... ..	47
Alexandria ... ..	63
Suez Canal ... ..	29
Damietta ... ..	11

#### Provinces :—

Qalyûbîya ... ..	56
Sharqîya ... ..	138
Daqahliya ... ..	82
Minûfiya ... ..	50
Gharbîya ... ..	106
Beheira ... ..	35

#### Provinces (continued) :—

Gîza ... ..	52
Beni Suef ... ..	14
Faiyûm ... ..	14
Minya ... ..	28
Asyût ... ..	32
Girga ... ..	37
Qena ... ..	9
Aswân ... ..	5
Palestine ... ..	33
Syria ... ..	12
Sinai ... ..	7



(c) CLASSIFICATION OF THE ANIMALS INFLECTING THE BITES.

The injuries to the 860 patients were inflicted by :—

Dogs	...	...	...	...	...	...	...	...	...	...	in 725 cases.
Cats	...	...	...	...	...	...	...	...	...	...	36 „
Wolves	...	...	...	...	...	...	...	...	...	...	49 „
Monkeys	...	...	...	...	...	...	...	...	...	...	4 „
Donkeys	...	...	...	...	...	...	...	...	...	...	10 „
Horses	...	...	...	...	...	...	...	...	...	...	9 „
Mule	...	...	...	...	...	...	...	...	...	...	1 „
Camels	...	...	...	...	...	...	...	...	...	...	5 „
Jackals	...	...	...	...	...	...	...	...	...	...	20 „
Rabid human being	...	...	...	...	...	...	...	...	...	...	1 „

(d) POSITION OF THE INJURIES.

93 cases were bites on the head.

426 cases were bites on naked skin : serious, 95 ; slight, 331.

341 cases were bites through clothing.

(e) NOTES ON THE ANIMALS INFLECTING THE BITES.

(1) It is to be noted that the number of persons bitten does not correspond to the number of animals causing the bites reported by the Veterinary Service, as in several cases one animal caused the injury to more than one person.

(2) As a result of their observation by the Veterinary Service, 133 animals, having bitten 136 persons, were found to be non-rabid.

(3) Experimental inoculation of rabbits undertaken at the Institute showed that eight animals (seven dogs and one donkey), having bitten ten persons, were healthy.

(4) In a certain number of cases definite diagnosis could not be established, and these cases are considered as suspect. The details are as follows :—

433 animals escaped and could not be traced.

Thirty-three animals were killed and the carcasses destroyed.

Fifty-four brains of animals arrived at the Institute in a state of decomposition and no investigation was possible.

Twenty-seven animals remained suspect, the rabbit inoculation being inconclusive.

The total of suspected animals is therefore 547.

(5) Rabies was considered to be proved in the case of forty-eight animals, having bitten ninety-eight persons. The diagnosis was determined :—

By Veterinary Inspectors in the case of twenty-five animals (twenty-three dogs, one cat, and one wolf), having bitten fifty-six persons.

By rabbit inoculation in the case of twenty-three animals (twenty dogs and three cats) having bitten forty-two persons.

(6) In the case of fourteen animals, having bitten twenty-two persons, positive diagnosis of rabies is presumed by the death of one or more of the patients bitten.

(f) METHOD OF TREATMENT.

No change was introduced during the year in the methods of preventive vaccination and serotherapy described in the 1916 report.

(g) STATISTICS.

In accordance with the practice in other antirabic institutes elsewhere the statistics only comprise deaths occurring more than fifteen days after the treatment was completed.

Amongst the persons treated in 1919 there occurred five deaths. Table LII attached gives the names and other particulars concerning each of these cases. The corrected mortality rate, representing the cases in which the treatment failed, is therefore 0.5 per cent.

In addition to the above, it is necessary to record the death of fifteen other persons who died either during treatment or less than fifteen days after its completion. The gross mortality comprising all deaths is therefore 1.7 per cent. Table LIII gives a classification of the cases treated and the mortality rate.

TABLE LII.—NOTES ON PATIENTS WHO DIED IN 1919.

Serial Number.	NAME OF PATIENT.	Age.	Sex.	Place where the Accident occurred.	Position of Injuries.	Nature and Number.	Bitten by	Date of Bite.	Dates of Treatment.	Date of Death.	Place of Death.
9674	'Amer Bayûmi ...	50	M.	Sakha, Kafr el Sheikh Gharbiya.	Right hand.	2 severe. 2 slightly severe.	Dog. Diagnosis impossible.	April 13.	April 17 to May 7.	June 4:— 51 days after the bite. 27 " " treatment.	His residence.
9729	Khadra Ahmad ...	45	F.	Zorkan, Tala District, Minûfiya.	Left forearm, left hand, left leg.	1 slightly severe. 2 slight. 2 severe.	Dog. Diagnosis impossible.	May 12.	May 14 to June 3.	July 11:— 59 days after the bite. 37 " " treatment.	Her residence.
9957	'Askar 'Abdel Bâri ...	25	M.	El Meharraka, 'Ayât District, Giza.	Left ear.	4 slight.	Dog. Diagnosis impossible.	July 29.	July 31 to Aug. 20.	September 21:— 53 days after the bite. 31 " " treatment.	His residence.
10,064	Mohamed Sayed 'Abd Rabbo.	8	M.	Kattama, Tanta District, Gharbiya.	Left buttock.	Severe.	Dog. Diagnosis impossible.	Sept. 3.	September 3 to 26.	November 3:— 60 days after the bite. 37 " " treatment.	"
10,245	Kamel 'Ali ...	51	M.	Damanhûr, Beheira.	Left forearm. Left small finger.	1 very severe. 1 severe.	Dog. Diagnosis impossible.	Nov. 2.	November 3 to 23.	February 11, 1920:— 100 days after the bite. 79 " " treatment.	"



TABLE LIII.—RESULTS OF ANTIRABIC TREATMENT IN CAIRO DURING 1919.

	INJURIES ON THE HEAD.			INJURIES ON NAKED SKIN (Head excepted).			INJURIES THROUGH CLOTHING.			TOTALS.		
	Treated.	Died.	Mortality per Cent.	Treated.	Died.	Mortality per Cent.	Treated.	Died.	Mortality per Cent.	Treated.	Died.	Mortality per Cent.
Class A ... ..	14	—	0·0	35	—	0·0	15	—	0·0	64	—	0·0
„ B ... ..	11	—	0·0	27	1	3·7	18	—	0·0	56	1	1·7
„ C ... ..	68	1	1·4	364	2	0·5	308	1	0·3	740	4	0·5
	93	1	1·07	426	3	0·7	341	1	0·2	860	5	0·5

Class A.—The animal causing the bite proved to be rabid by the development of rabies in patients bitten, or by experimental inoculation.

Class B.—The animal causing the bite was declared to be rabid by a veterinary surgeon.

Class C.—The animal causing the bite was suspected of rabies.

APPENDIX I.—**Note on the Desirability of Extending the Facilities for  
Bacteriological Diagnosis to certain Towns in the Provinces.**

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The bacteriological diagnosis for the whole of Egypt, except the city of Alexandria, has up to the present been carried out entirely in the Public Health Laboratories in Cairo. Under the circumstances this has hitherto perhaps been unavoidable, but during the last few years the demands for such diagnosis have increased to so large an extent that the question of some degree of decentralization should now be considered.

Among the disadvantages of the existing arrangement the following may be specially noted :—

(1) Certain bacteriological diagnoses, such as diphtheria, are impossible for many parts of the country owing to the distance from Cairo. In such cases specimens are either useless on arrival or liable to give misleading results.

(2) A large number of examinations of films collected in Upper Egypt in connection with the control of typhus, plague, etc., are regularly sent to Cairo for examination. Owing to the time occupied in transport, examination, and the necessary formalities of registration, etc., some delay is inevitable, and the results when they reach their destination are much less valuable than if they had been immediately available. In the case, for instance, of a death from suspected pneumonic plague, the results of the immediate examination of a film from the lungs are often invaluable to the medical officer in charge and enable him to decide at once on the necessary course of action.

(3) The regular bacteriological control of water supplies at a distance from Cairo is at present impracticable as specimens sent to Cairo from these supplies are useless for bacteriological examination unless sent carefully packed in ice, which necessitates their being sent by hand.

(4) The locally manufactured aerated waters cannot be adequately controlled.

As a first step towards a better provincial diagnosis service it might be well to consider the advisability of establishing small centres in one or two suitable provincial towns, and for this purpose in the first instance Port Said, Suez, and Asyût would be the most suitable.

Pending a decision on the future of the Quarantine Board such arrangement in the case of the two former towns would necessarily be of a more or less provisional nature, but this need not stand in the way of a beginning being made.

*Port Said.*—The case of Port Said, with its port and considerable European population, is particularly urgent, and the work would occupy the whole time of at least one bacteriologist. He would, in the first instance, undertake the diagnosis of diphtheria for the town, and would carry out the microscopical examination of films for plague, malaria, and relapsing fevers, and make the agglutination tests for enterica and Malta as well as carrying out any diagnosis work required for the Government Hospital. He should be responsible for the bacteriological examination of the locally prepared aerated waters, the examination of rats for plague, and, in short, all the simpler bacteriological work of the Public Health Service ; the more complicated and difficult examinations, such as cholera, being still referred to the Central Laboratories in Cairo.

A most important question in Port Said is the milk control, particularly in connection with the question of Malta fever. Malta fever has for many years been endemic amongst the milch goats in Port Said, and some years ago a serious attempt was made by the Department to deal with this question, the blood of all the goats in Port Said being examined and such goats as showed a positive agglutination of Malta fever being killed. Unfortunately, it has not been possible to continue this work, but with the presence of a bacteriologist in the town this examination might be resumed, and there is no reason why the disease should not be stamped out.

In order to deal with the question of adulteration of milk it is desirable that regular chemical analysis should be undertaken locally. This should not be beyond the powers of the bacteriologist who, previous to taking up his duties in Port Said, might undergo a course of training in the chemical analysis of milk in the Public Health Laboratories in Cairo.



*Suez.*—In the case of Suez the same arguments hold, but being a much smaller town the necessity for a local diagnosis service is less urgent than in the case of Port Said.

*Asyût*, lying as it does practically in the middle of the long stretch of Upper Egypt, is probably the most suitable centre for a laboratory south of Cairo. The railway journey from Aswân to Cairo (886 kilometres) takes over twenty hours by express, so that specimens forwarded by letter post take, as a rule, not less than forty-eight hours to reach the Laboratories in Cairo and may take considerably longer.

A laboratory in Asyût (378 kilometres from Cairo) could undertake most of the simpler work from the Province of Asyût and from all stations south of this. The amount of work in Asyût would probably be sufficient to at once occupy the whole time of one bacteriologist.

*As regards the question of Accommodation.*—In the case of Port Said and Suez the Quarantine Board already has laboratories in both towns and, in the event of this Service being taken over by the Department of Public Health, the bacteriological diagnosis could be carried out in these laboratories. Pending the taking over of the quarantine work, arrangements could probably be made with the Board to allow the bacteriologist of the Department of Public Health to work in their laboratory at Port Said, and in Suez either a similar arrangement could be made or the work could be carried out in the newly erected laboratory at the Government Hospital.

The importance of Asyût from its geographical position certainly warrants the erection of a laboratory. This will have to be provided sooner or later, and it would probably be more economical to proceed with it without delay. One or two rooms would suffice as a beginning, but it is most important that these should be so arranged as to form part of a definite plan which could be completed when the necessary funds are available.

*As regards the necessary Staff.*—In the case of Port Said and Suez, when the quarantine work is taken over, the Department would have to maintain well-equipped laboratories in both these ports. As these laboratories must be under the charge of capable men and will be able to undertake all varieties of bacteriological work, there would be no difficulty in attaching an extra bacteriologist to each laboratory for the public health work of the town. This man would then work directly under the director of the laboratory in Port Said or Suez, both these laboratories being under the ultimate control of the Public Health Laboratories.

In the case of Asyût, the bacteriologist appointed should be a man who has undergone a course of training in the Public Health Laboratories in Cairo. He would be nominated with the approval of the Director, Public Health Laboratories, Cairo, and would be controlled by him as regards his scientific work only. The Asyût laboratory should be the forerunner of a series of laboratories in the larger Egyptian towns, and it is very necessary, for the maintenance of a high standard of work, that such laboratories should be controlled by the Central Laboratories in Cairo, and be regularly inspected by a senior bacteriologist from these laboratories, but I am of the opinion that such control should be limited to the technical aspect of the work, and that administratively they should depend elsewhere.

The Central Laboratories in Cairo are essentially a technical institution, and it is undesirable that they should in any way tend to assume the functions of an administrative section of the Department.

With the extension of local government in Egypt, many of the larger municipalities may find it necessary or desirable to establish laboratories, not only for the services of the municipality but also for the assistance of private practitioners, and the Government would do well to encourage development along these lines. It is, however, essential to the success of such arrangements that the Government should exercise a thorough control of such laboratories not only by means of regular inspection but by insisting on the right to nominate the personnel. These powers might be secured by the provision of "grants-in-aid" or other suitable administrative arrangements.

In the *other Egyptian towns where Government Hospitals exist* a good deal might be accomplished. The Hospital Section of the Department of Public Health has, I understand, set aside a room in each hospital and is fitting it up as a small clinical laboratory.

I am convinced that, as time goes on, these laboratories will become increasingly valuable to the Department and feel that no effort should be spared in increasing their usefulness. To refer only to the question of bilharziosis, with which some sixty per cent of the population

is stated to be infected, very promising results have recently been obtained in the treatment of this disease with antimony tartrate. The treatment is at present on trial and could not yet be recommended for general use, but the results so far obtained appear to warrant the conclusion that the parasite is susceptible to medicinal treatment and that a suitable drug will ultimately be found. Whatever drug is finally employed for this purpose, it will be necessary to control the treatment either by the examination of the urine and fæces or by blood examinations, and this will involve work on a considerable scale for which purpose local laboratory facilities will be necessary. The same remarks apply to the treatment of ankylostomiasis.

The development of the laboratories of the provincial Government hospitals could be arranged by the appointment of a fourth class Medical Officer, with the necessary training, as pathologist to each hospital. This man would carry out all the clinical pathological and bacteriological work of the hospital, and it might be arranged that he should also undertake the simpler diagnosis work for the town. The extent to which this is desirable would be a matter for the decision of the Department.

In any case the equipment of the hospital laboratories should be completed so as to render them capable of dealing with the necessary work. If this arrangement is adopted I would suggest that the pathologists should be administratively under the Hospital Section of the Département, but that they should be technically controlled by the Central Laboratories in Cairo, which should arrange for the inspection of these hospital laboratories and control the scientific work of the pathologists who, before taking up their duties, would have served for the necessary period in the Public Health Laboratories in Cairo.

(Signed) : C. TODD,

*Director, Public Health Laboratories.*

September 3, 1919.



APPENDIX II.—Report on the Work carried out by the Bacteriological Laboratory at Jeddah  
from August 11 to October 31, 1919.

The establishment of a bacteriological laboratory at the Quarantine station at Jeddah is mainly due to the initiative of the British Agent of the Hedjaz. The object of the laboratory is the performance of all examinations of suspected cases amongst the pilgrims, especially on their arrival at, and their departure from, the holy places.

The staff consisted of a bacteriologist (the writer), a clerk (Mohammed Shafîq Effendi), and a laboratory attendant (Mohammed Effendi Hawâri).

The work of the laboratory being mainly concerned with the diagnosis of cholera and plague and for a period of two to three months only, a limited quantity of material and equipment only was taken, and this proved amply sufficient.

On August 11 the staff with the laboratory equipment left for Suez, where they sailed on the same day accompanied by Major Marshall (Inspector of the Hedjaz Quarantine). On August 15 all arrived safely at Jeddah. It was then decided to instal the laboratory in one of the rooms of the Government Hospital, which had been formerly used for microscopical examinations. We found there a microscope, some old sterilizers, miscellaneous glassware, very old agar and useless agglutinating sera. This old material was removed and replaced by our new equipment.

Although the room could be used as a laboratory, yet it had the great disadvantage of having only shutters but no glass panes. As for the sake of light these shutters had to remain open during work, the wind greatly interfered with our lamps and burners, and a great number of flies (very numerous at Jeddah) found their way into the room and caused considerable nuisance. This inconvenience could not be remedied, as no glass panes were procurable in town, but these should be provided for the next pilgrimage.

The equipment of the laboratory proved in practice very satisfactory, with the exception of one stock of agar, which was very soft, and another of Endo-agar which was quite useless. It would be better in future to test every stock before packing.

The specimens received for examination were either from pilgrims or from the natives of Jeddah. In the first case, they were sent by the quarantine doctor; in the latter, by the British Agency doctor.

The specimens were handed on arrival to the clerk for registration. The result of examination was reported to the doctor either verbally or by telephone.

The following table gives the number of specimens received during the whole period, together with the nature and result of the examination :—

TABLE LIV.—BACTERIOLOGICAL EXAMINATIONS.

Nature of Examination.	Number of Specimens found Positive.	Number of Specimens found Negative.	Total.
Cholera ... ..	—	2	2
Dysentery ... ..	5. (3 Amœbic Bacillary) (2 Flexner)	2	7
Malaria ... ..	2	6	8
Gonorrhœa ... ..	2	1	3
Bilharzia ... ..	1	—	1
Tuberculosis ... ..	—	3	3
Typhoid ... ..	—	4	4
Typhus ... ..	—	1	1
Leishmania ... ..	—	1	1
TOTAL ... ..	10	20	30

TABLE LV.—MISCELLANEOUS EXAMINATIONS.

	Pathogenic.	Normal.	Total.
Urine ... ..	5	4	9
Blood culture ... ..	—	1	1
Sperma ... ..	—	1	1
Pus ... ..	1	—	1
Water ... ..	—	—	2
TOTAL ... ..	6	6	14

It was our intention to make complete analyses of all water supplies on the route of the pilgrimage before the arrival of the pilgrims, but it was found that the result of such examinations would be very doubtful owing to the absence of ice which is essential on account of the long transport and the hot weather. It was then decided that the writer should accompany the pilgrims and visit personally the different water supplies. The result of these local inspections and the examination of other sanitary conditions with regard to the pilgrimage were laid down in a report handed to the Inspector of quarantines.

A sample of water from the Zamzam well has been cultured and a quantity of the water was brought to the Public Health Laboratories for chemical analysis.

The laboratory was favoured with the visit of Emir Abdalla, son of His Majesty the King. A demonstration of some micro-organisms was made before him, at which he expressed his interest and satisfaction in the kindest words.

Finally, I should like to mention the solicitude and interest shown by Major Marshall (Inspector of the Hedjaz Quarantine) to the laboratory and the many services he rendered to its staff, making their task easy and pleasant.

Thanks are also due to the laboratory assistant, Mohammed el Hawâry, for the great care and skill he showed in the performance of his duties.

November 1919.

(Signed) : ALI TEWFIK SCHOUSCHA,  
*Bacteriologist, Public Health Laboratories.*



## VI.—REPORT ON MEDICAL COMMISSIONS.

### 1.—CENTRAL MEDICAL COMMISSION.

During 1919, 9,028 medical certificates were issued by the Central Medical Commission. This shows an increase of 598 as compared with 1918.

Out of this total, 3,003 employees were examined for sick leave, of which 222 were not granted sick leave. The attached table shows in detail these figures : 1,467 applicants have been examined for retirement from service on grounds of physical unfitness, 152 employees were pronounced fit for duty.

Eighty-two employees were invalided out of the service on account of bilharziasis and its sequelæ.

4,458 candidates were examined for admission to the service. Out of these, 2,055 were rejected on account of defective vision, diseases of urinary, respiratory, circulatory systems, and other miscellaneous diseases.

The number of medical certificates issued by the Central Medical Commission during the last five years was as follows :—

1915	...	...	...	...	...	...	...	...	...	4,682
1916	...	...	...	...	...	...	...	...	...	5,033
1917	...	...	...	...	...	...	...	...	...	6,773
1918	...	...	...	...	...	...	...	...	...	8,430
1919	...	...	...	...	...	...	...	...	...	9,028

### 2.—PROVINCIAL MEDICAL COMMISSIONS.

As will be seen from the attached table, 9,765 medical certificates were issued by the Provincial Medical Commissions during 1919.

The number of *Nizâmi ghafîrs* who were examined by the Medical Officers of the Markazes on admission to service and for extension of their voluntary period of service are as follows :—

TABLE LVI.—NIZAMI GHAFIRS EXAMINED.

	Fit.	Unfit.	Total.
For admission to service ... ..	8,239	4,099	12,338
For extension of service ... ..	1,071	173	1,244
TOTAL ....	9,310	4,272	13,582

Owing to the increase of the work, it is desirable to acquire a larger room for the examinations, the present room being overcrowded.

The transfer of the London and Paris Medical Boards from the Ministry of Finance to the Department of Public Health has been agreed to by the Ministry of Finance, and will be carried out shortly.

The regulations of the Central and Provincial Medical Commissions are being revised, and will be reprinted.

A third member for the Central Medical Commission has been applied for, and should be appointed as soon as possible. He should be a specialist in eye diseases and well trained in the examination of urines and microscopical work.

TABLE LVII.—ANNUAL RETURN OF MEDICAL EXAMINATIONS MADE BY THE CENTRAL MEDICAL COMMISSION OF CAIRO DURING 1919.

MONTH.	OBJECT OF MEDICAL EXAMINATION.									CAUSES OF REJECTION OF CANDIDATES APPLYING FOR ENTRY TO SERVICE.							
	NUMBER OF CASES.									DISEASES OF							
	For Admission to Service.	For Sick Leave.		For Invaliding from Service.		For Determination of Age.	Other Examinations if any.	TOTAL.		Defective Vision.	Urinary System.	Respiratory System.	Circulatory System.	Nervous System.	Digestive System.	Other Miscellaneous Diseases.	TOTAL.
		Granted.	Refused.	Invalided.	Fit for Duty.												
January ...	343	261	18	151	11	7	3	765	29	98	17	—	7	—	—	2	124
February	292	224	12	159	9	2	1	678	21	96	15	4	15	—	—	1	131
March ...	263	211	18	137	11	4	2	617	29	90	30	1	11	—	—	—	132
April ...	58	150	13	16	15	1	—	275	28	11	2	—	—	—	—	—	13*
May... ..	287	253	11	117	18	8	4	669	29	91	28	—	11	—	—	—	130
June ...	311	225	9	101	7	4	1	642	16	95	34	2	8	—	—	1	140
July ...	521	297	38	101	14	10	2	931	52	203	45	5	34	2	—	3	292
August ...	464	288	23	126	15	3	4	885	38	136	38	1	21	2	—	3	201
September	660	258	25	112	16	3	4	1,037	41	160	66	1	17	—	—	2	246
October ...	436	230	10	131	9	7	2	806	19	154	38	8	25	—	—	8	233
November	367	300	16	126	14	8	9	810	30	125	29	10	32	1	—	4	201
December	456	306	29	140	12	7	4	913	41	143	30	6	28	1	—	4	212
TOTAL ...	4,458	3,003	222	1,467	152	64	36	9,028	374	1,402	372	38	209	6	—	28	2,055

\* Strikes in Cairo.

TABLE LVIII.—SICK LEAVE AND INVALIDING DURING 1919.

MONTH.						SICK LEAVES.				INVALIDING.					
						GRANTED.		REFUSED.		TOTAL.	VIDE CERTIFICATES.		BY CENTRAL MED. COM.		TOTAL.
						Vide Certificates approved.	By C. M. C.	Vide Certificates.	By C. M. C.		Approved.	Disapproved.	Unfit.	Fit for Duty.	
January ...	...	...	...	...	...	147	96	1	17	261	110	1	30	10	151
February	...	...	...	...	...	112	100	1	12	224	118	1	32	8	159
March ...	...	...	...	...	...	103	90	2	16	211	85	—	41	11	137
April ...	...	...	...	...	...	84	53	—	13	150	35	1	16	14	66
May... ..	...	...	...	...	...	119	123	—	11	253	72	5	27	13	117
June ...	...	...	...	...	...	143	73	—	9	225	71	2	23	5	101
July... ..	...	...	...	...	...	129	130	3	35	297	72	6	15	8	101
August ...	...	...	...	...	...	129	136	4	19	288	95	10	16	5	126
September	...	...	...	...	...	134	99	—	25	258	76	2	20	14	112
October ...	...	...	...	...	...	111	109	1	9	230	101	3	21	6	131
November	...	...	...	...	...	139	145	—	16	300	98	5	14	9	126
December	...	...	...	...	...	140	137	1	28	306	98	1	29	12	140
TOTAL ...	...	...	...	...	...	1,490	1,291	12	210	3,003	1,031	37	284	115	1,467



TABLE LIX.—ANNUAL RETURN OF MEDICAL EXAMINATIONS MADE BY THE CENTRAL AND PROVINCIAL MEDICAL COMMISSIONS DURING 1919.

COMMISSIONS.		OBJECT OF MEDICAL EXAMINATION.										CAUSES OF REJECTION OF CANDIDATES APPLYING FOR ENTRY TO SERVICE.									
		NUMBER OF CASES.										DISEASES OF									
		For Admission to Service.	For Sick Leave.		For Invaliding from Service.		For Determination of Age.	Other Examinations if any.	TOTAL	Defective Vision.	Urinary System.	Respiratory System.	Circulatory System.	Nervous System.	Digestive System.	Other Miscellaneous Diseases.	TOTAL.				
			Granted.	Refused.	Invalided.	Fit for Duty.															
Central Medical Com.	4,458	3,003	222	1,476	152	64	36	9,028	374	372	38	209	6	—	28	2,055					
Alexandria...	859	1,192	53	244	41	14	67	2,376	94	12	—	2	—	2	—	136					
Suez ...	80	106	11	20	7	14	—	220	18	—	—	—	1	—	2	25					
Port Said ...	99	57	3	46	13	4	1	207	16	—	—	1	—	—	1	46					
Damietta ...	14	36	3	18	11	2	—	70	14	2	—	—	—	—	—	7					
Beheira ...	140	369	46	94	38	4	—	607	84	13	—	1	—	—	5	86					
Gharbiya ...	153	527	36	186	50	13	2	881	86	2	—	2	—	—	1	67					
Minûfiya ...	160	248	28	59	11	6	—	473	39	16	1	—	—	—	2	74					
Daqahliya ...	127	452	51	159	62	3	27	768	113	4	1	—	—	—	—	41					
Sharqiya ...	158	282	14	261	71	—	19	720	85	6	1	1	1	2	—	39					
Qalyûbiya ...	129	149	23	83	52	3	1	365	75	17	—	1	1	—	1	64					
Gîza ...	146	215	18	71	37	—	—	432	55	—	—	—	—	—	—	54					
Faiyûm ...	112	276	10	48	22	3	—	439	32	2	—	—	—	—	—	50					
Beni Suef ...	75	123	7	49	19	8	5	260	26	8	—	—	—	—	—	47					
Minyâ...	186	163	10	101	51	3	—	453	61	9	—	—	—	1	—	69					
Asyût ...	218	289	24	80	22	2	2	591	46	3	—	—	—	—	—	44					
Girga ...	122	177	6	86	49	1	1	387	55	2	—	—	—	—	—	25					
Qena ...	90	95	8	50	21	1	3	239	29	—	—	1	—	—	1	27					
Aswân...	28	164	10	70	26	9	6	277	36	1	—	—	—	—	1	5					
TOTAL ...	7,354	7,923	583	3,192	755	154	170	18,793	1,338	469	41	218	9	4	48	2,961					

TABLE LX.—LIST OF THE MEDICAL EXAMINATIONS OF GHAFIRS MADE DURING 1919  
BY THE MEDICAL OFFICERS OF DISTRICTS.

MONTHS.	NIZAMI GHAFIRS ON ADMISSION TO SERVICE.								GHAFIRS FOR EXTENSION OF THEIR VOLUNTARY SERVICE.							
	Total Number of Ghafirs examined during the Month.	Number of Ghafirs pronounced Fit.	Number of Ghafirs pronounced Unfit.	Causes of Unfitness.					Total Number of Ghafirs examined during the Month.	Number of Ghafirs pronounced Fit.	Number of Ghafirs pronounced Unfit.	Causes of Unfitness.				
				Def. Vision.	Urinary System.	Respiratory System.	Circulatory System.	Other Diseases.				Def. Vision.	Urinary System.	Respiratory System.	Circulatory System.	Other Diseases.
January ... ..	1,185	839	346	330	2	4	2	8	337	283	54	48	1	—	3	2
February ... ..	982	683	299	276	4	1	—	18	46	37	9	9	—	—	—	—
March ... ..	609	427	182	176	—	—	1	5	50	35	15	15	—	—	—	—
April ... ..	473	323	150	149	—	—	—	1	88	78	10	10	—	—	—	—
May... ..	917	633	284	277	—	—	3	4	54	48	6	6	—	—	—	—
June ... ..	833	557	276	273	—	—	2	1	122	109	13	12	—	—	—	1
July ... ..	1,147	735	412	392	7	—	7	6	56	51	5	4	—	—	—	1
August ... ..	1,257	785	472	461	1	—	5	5	61	49	12	10	—	—	—	2
September ... ..	1,069	710	359	344	3	—	4	8	194	176	18	18	—	—	—	—
October ... ..	1,508	958	550	523	7	—	—	20	30	26	4	4	—	—	—	—
November ... ..	1,202	798	404	375	7	2	8	12	1	1	—	—	—	—	—	—
December ... ..	1,156	791	365	334	10	—	8	13	205	178	27	27	—	—	—	—
TOTAL ... ..	12,338	8,239	4,099	3,910	41	7	40	101	1,244	1,071	173	163	1	—	3	6



## VII.—REPORT ON THE INSPECTORATE OF PHARMACIES.

The shortage of inspectors and the events which occurred in the spring resulted in a large decrease in the number of inspections. Whereas in 1918, 329 inspections were made, in 1919 it was only possible to make 177.

In spite of the fact that less inspections have been made, an improvement is noticed amongst those pharmacies owned by qualified pharmacists, 78·6 per cent of which gave satisfaction on inspection as compared with 66·4 per cent in 1918. The improvement in the pharmacies owned by unqualified proprietors is less marked, namely, 68·9 per cent in 1919 and 62·3 per cent in 1918. The same remark applies to the unsatisfactory inspections which from 37·5 per cent in 1918 fell to 21·3 per cent in 1919 in the case of pharmacies owned by qualified pharmacists and from 37·6 per cent to 31 per cent in the case of those owned by unqualified persons. These figures show that the pharmacies owned by qualified pharmacists are more satisfactorily managed than those belonging to unqualified persons.

The net increase in the number of pharmacies existing at the end of the year amounts to three, of which two belong to qualified pharmacists and one to an unqualified person.

During the year, nineteen authorizations were accorded to pharmacists to practise in Egypt. The diplomas held by the applicants were as follows:—

Cairo ... ..	2
Constantinople ... ..	7
Philadelphia ... ..	1
London ... ..	1
Paris ... ..	3
Beyrouth (American) ... ..	4
„ (French) ... ..	1

It will be noticed that the applicants holding diplomas from Qasr el 'Aini School are still in a large minority, which shows the necessity of increasing the facilities for obtaining local diplomas.

Two assistant pharmacists have been authorized, one holding a certificate from Qasr el 'Aini and the other from Malta.

Forty-nine new apprentice assistants have been registered, which brings the total up to 137.

Fifteen student pharmacists have been permitted to work in pharmacies in order to complete their course. Six of these belong to Qasr el 'Aini and nine are registered in various foreign schools.

*Narcotic Drugs.*—The traffic in and smuggling of narcotic drugs still continues on a very large scale. The control exercised by the Inspectorate in conjunction with the Customs Administration over the importation of these drugs has resulted in a marked decrease in imports. This concerns the quantities used in legitimate medicine. On the other hand, the traffickers by devious ways still succeed in getting large quantities into the country. It would be advisable to establish a stricter control at Port Said and Suez and all along the Asiatic frontier.

The penalties inflicted by the law are ridiculously inadequate in comparison to the harm done by these traffickers and also in comparison to those penalties which are inflicted in most European countries which are doing their utmost to eradicate this evil. For example, the Inspectorate proved conclusively that a certain pharmacist in Cairo had disposed of a considerable amount of cocaine and morphine illegally and had attempted to justify the sale by altering and forging doctors' prescriptions by converting grains into grammes and 1 into 10. After a lapse of nearly two years a final judgment of P.T. 100 and costs was given. This is only one of many similar cases.

*Opium.*—A Decree was published in October 1918 prohibiting the cultivation of poppies, and it is still in force, but the cultivators have always some opium in their possession and are continually applying for permission to transport it in order to dispose of it in the towns!

The following table shows the work carried out by the Inspectorate with regard to private pharmacies and authorized poison dealers.

TABLE LXI.—STATISTICS CONCERNING PHARMACIES AND AUTHORIZED POISON DEALERS.

	CAIRO.	ALEXANDRIA.	PROVINCES.	TOTAL.
<i>Pharmacies :—</i>				
Total number existing at end of 1918 ... ..	151	79	144	371
"    "    "    1919 ... ..	152	78	144	374
Qualified proprietors ... ..	86	41	69	196
Unqualified proprietors ... ..	66	37	75	178
Number of inspections during 1919 ... ..	101	16	60	177
Qualified proprietors ... ..	58	9	36	103
Unqualified proprietors ... ..	43	7	24	74
Pharmacies giving satisfaction on inspection ... ..	81	11	40	132
Qualified proprietors ... ..	49	6	26	81
Unqualified proprietors ... ..	32	5	14	51
Pharmacies found unsatisfactory ... ..	20	5	20	45
Qualified proprietors ... ..	9	3	10	22
Unqualified proprietors ... ..	11	2	10	23
Closed during the year ... ..	10	6	10	26
Qualified proprietors ... ..	3	4	3	10
Unqualified proprietors ... ..	7	2	7	16
Opened during the year ... ..	11	5	13	29
Qualified proprietors ... ..	5	2	5	12
Unqualified proprietors ... ..	6	3	8	17
Net increase over previous year ... ..	1	—	3	4
Qualified proprietors ... ..	1	—	2	3
Unqualified proprietors ... ..	—	1	—	1
Net decrease on previous year ... ..	—	1	—	1
Qualified proprietors ... ..	—	1	—	1
Unqualified proprietors ... ..	—	—	—	—
Contraventions against the Pharmacy Law and				
Law No. 20 of 1911 ... ..	15	9	21	45
Qualified proprietors ... ..	3	1	9	13
Unqualified proprietors ... ..	12	8	12	32
Judgment obtained against offenders ... ..	4	5	14	23
Qualified proprietors ... ..	1	1	7	9
Unqualified proprietors ... ..	3	4	7	14



TABLE LXI (*continued*).

	CAIRO.	ALEXANDRIA.	PROVINCES.	TOTAL.
<i>Pharmacies (continued).</i>				
Actions pending ... ..	10	2	4	16
Qualified proprietors ... ..	2	—	2	4
Unqualified proprietors ... ..	8	2	2	12
Acquitted or filed ... ..	1	2	3	6
Qualified proprietors ... ..	—	—	—	—
Unqualified proprietors ... ..	1	2	3	6
<i>Narcotic and Stimulating Drugs :—</i>				
Contraventions for offences against the Poisons Law	6	—	4	10
Judgments obtained against offenders ... ..	2	—	2	4
Actions pending ... ..	3	—	1	4
Acquitted ... ..	1	—	1	2
<i>Authorized Poison Dealers :—</i>				
Existing at the end of 1918... ..	83	44	42	169
Authorized during 1919 ... ..	5	3	1	9
Authorizations cancelled through death ... ..	1	1	—	2
Regular Inspections ... ..	6	—	1	7
Satisfactory ... ..	4	—	1	5
Unsatisfactory ... ..	2	—	—	2
Inspections for verification of registers ... ..	78	15	36	129
Contraventions against authorized persons... ..	4	2	1	7
„ „ unauthorized persons ... ..	5	—	13	18
Judgments against authorized persons... ..	2	2	1	5
„ „ unauthorized persons ... ..	1	—	4	5
Actions pending, authorized persons ... ..	1	—	—	1
„ „ unauthorized persons... ..	3	—	6	9
Acquittals, authorized persons ... ..	1	—	—	1
„ unauthorized persons ... ..	1	—	3	4

*Staff.*—Great difficulty has been experienced in recruiting pharmacists for the Government service. Only pharmacists with diplomas from Qasr el 'Aini are eligible; the number who succeed in obtaining their diplomas every year is very small, and the majority of these prefer to open new pharmacies for themselves. By doing this they become their own masters, make fairly good incomes, and are able to stay in any town they please. If they enter the Government service they are liable to be sent anywhere, the rate of pay is very small, and advancement is slow.

At present there are seven vacant posts in the Government service, and eligible candidates are not forthcoming.

Owing to existing conditions permission was obtained to engage, as a temporary measure, pharmacists holding diplomas from foreign faculties. This, however, has only complicated matters, as they are on a six months' contract and receive a different rate of pay to the ordinary *cadre* employee.

Unless something can be done to increase the rate of pay and raise the status of pharmacists generally it is to be feared that the Government will continue to experience difficulty in obtaining the services of the best class of men.

*Government Dispensaries.*—Owing to the natural progress of the country it has been found necessary to open several Government dispensaries in districts where no private pharmacies exist and which are some distance from any large centre, in order that the population may obtain treatment and medicines without unnecessary delay. Dispensaries have been established at Faraskûr, Tel el Kebîr, Matarîya, and Kafr el Dawâr, and applications for the same from Quwesna and Marg District are under consideration.

The work of the Inspectorate of Pharmacies is steadily increasing and its sphere of usefulness could be increased if a larger staff were available.

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## VIII.—REPORT ON THE STORES BRANCH.

### BUDGET.

Before proceeding to the customary comparison of three years' budgets, it may be of interest to show in what respects the Stores' budget to-day differs from its predecessor of 1914.

The following extract from a former report on this subject is here quoted :—

#### BUDGETARY ESTIMATES FOR THE YEAR 1920–1921.

Unlike previous years there are few special features to comment on, as such features now represent the normal structure of the budget. In my opinion the Department has reached a point of stability in this respect which will only be disturbed by some large expansion or radical change in its present organization.

It may therefore be of interest at this stage to show briefly the nature of changes which distinguish the budget as it stands from that of 1914. A simple juxtaposition of the two estimates will sufficiently illustrate the development that has taken place :—

1914	...	...	...	...	...	...	Total L.E.	34,000
1920–1921	...	...	...	...	...	...	,,	,, 231,994

The following table shows how these two total sums are made up.





Permanent ... ..	1,076	740
Consumable... ..	1,971	393
X-ray accessories, permanent ... ..	153	000
X-ray accessories, consumable... ..	47	680
Laboratory articles, permanent ... ..	60	335
Laboratory articles, consumable ... ..	688	005

Frontier Districts. General Surgical Instruments.

Permanent ... ..	427	320
Consumable... ..	50	554

New Demands.

Damanhûr Hospital ... ..	36	900
Faiyûm Hospital ... ..	101	270
To complete establishment of Markaz Health Offices ...	443	520
Zagazig Hospital ... ..	27	595
Fever Hospital ... ..	19	535
Damietta Hospital ... ..	50	955
Benha Hospital ... ..	59	010
Qasr el 'Aini Hospital ... ..	341	326
Alexandria Hospital ... ..	448	685

Drug Store.		L. E.	M.
Permanent, by contract ... ..	...	49	875
Permanent, special and locally ... ..	...	45	750
Consumable, by contract ... ..	...	8,233	818
Consumable, special and locally ... ..	...	3,040	731

Drug Store.

Permanent, contract ... ..	170	358
Consumable, contract ... ..	45,158	822
Consumable, locally ... ..	4,861	514
Consumable, special ... ..	5,754	602
Special chemicals and stains for Department of Public Health Laboratories... ..	178	539

TOTAL ... ..

56,123 835

TOTAL ... ..

216,042 397

Less for issues on payment ... ..

17,000 000

Five per cent margin for unforeseen contingencies ... ..

Repairs to equipment, etc. ... ..

199,042 397

9,952 119

6,000 000

GRAND TOTAL ... ..

214,994 516

In comparing the budgets the features which will first suggest themselves for remarks are the enormous increase in Stores expenditure and the long list of new classifications.

The former corresponds fairly to the expansion of the Department, while the latter indicates the policy followed, namely, the division of expenditure into classifications which would afford the Director-General and Director of Stores some measure of control.

Such headings of expenditure as Permanent, Locally, or Contract, convey very little information to any one, and their continued presence to a certain extent in current budgets is only due to the ruling of the Ministry of Finance. The importance of this change will be at once apparent on referring to the 1914 budget ; it is practically a blank sheet as regards the nature of stores expenditure.

Two new series appear in the current estimates, namely, " Epidemic Section," which was formerly a money grant of L.E. 6,000, and that of the " Frontier Districts Administration." The former, now controlled by a regular budget, required L.E. 58,000 for 1920-1921, apart from any special expenditure which may be necessary. The Frontier Districts Administration takes L.E. 7,030.

The increase in workshops expenditure is equally significant : from L.E. 500 to L.E. 6,000.

The above survey has confined itself to budgetary features only. Detailed reports of other data will be found in the Annual Report of the Department.

The budget in its present form is the result of reorganization and expansion in which the Central Stores Section has had to adapt itself to, sometimes to anticipate, the development of the Department. This has been fairly successfully accomplished during the period of war.

Not unnaturally, considerable opposition has been offered to the rapid increase of expenditure in successive budgets, but the foresight of the Department in anticipating the rapid expansion in all branches of public hygiene developments, which has since occurred, has succeeded in obtaining sufficient equipment, at least in the main classes of stores, to do its work adequately.

The following is a comparison of the Stores budgetary estimates for the last three years :—

								L.E.
1918-1919	...	...	...	...	...	...	...	105,996
1919-1920	...	...	...	...	...	...	...	206,519
1920-1921	...	...	...	...	...	...	...	214,995

#### SUPPLIES.

The task of maintaining a high standard of supplies for the Department has, if anything, increased in difficulty since the cessation of hostilities. The quality of material supplied through the Government agency in London was in several cases so much below the standard article as to be unacceptable and, in general, it may be said that supplies procured locally are superior. On the other hand, the workmanship of home-made articles is better.

At the moment of writing, the state of all markets, and especially that of textiles, is most unsettled. Prices fluctuate rapidly and orders have been taken up for delivery as far in advance as 1921 and 1922. This instability has its effect on the Department's supplies, and is responsible for the long delays in the delivery of almost every order placed at home.

#### ORGANIZATION.

Considerable disorganization was caused in the normal work of supply and issue by the political events in the early part of the year. The Central Stores was cut off from the district units for a period ranging from one to four months according to the reopening of communications. During this period stores were prepared for the first opportunity of despatch, and at one time over 3,000 packages had accumulated for delivery.

As accumulation was simultaneously occurring at the Customs in Alexandria, a situation was created which, on the reopening of railway communication, imposed a heavy strain on the staff.

In passing, it is worthy of note that the number of packages now cleared annually through the Alexandria Customs alone for this Department amount to about 12,000. This branch of stores work is therefore becoming an important section.



### STANDARD SAMPLES.

A total revision of the Department's samples has been carried out and the range of samples again extended.

The work of compiling trade specifications has been taken up in conjunction with the Director, Government Analytical Laboratory.

### EPIDEMIC STORES.

The political disturbances had a marked effect in economizing the consumption of stores used in the Epidemic Section. During the greater part of four months practically no stores were issued.

Provincial establishments are therefore at full strength with the exception of a few articles. This has been the object steadily worked for since the system of provincial establishments was inaugurated four years ago; its attainment has been realized several months earlier than was anticipated, as explained above.

The organization as it stands to-day has cost L.E. 184,878 in stores, with a storekeeping staff of storekeepers costing annually L.E. 1,100 in salaries.

The basis is a store stock capable of supplying at any one time 5,500 patients, plus a reserve to meet another 1,000.

Unless this basis is extended, store expenditure is likely to be confined in the future to making good wastage. Better storing accommodation in the provinces, however, is necessary.

### DRUGS.

The scheme of supplying all Government Departments with drugs from the Central Stores has at last been realized. In future the charge and purchase of such supplies will be a charge to the Department of Public Health budget.

### HOSPITALS.

The accommodation provided for stores in the provincial hospitals may be generally regarded as very inadequate. Work has increased, stores have increased, but the storage room has in the majority of cases remained the same. This is a disorganizing factor in store work and a serious handicap to many provincial storekeepers.

### X-RAY SECTION.

The task of co-ordination of *x*-ray installations and supplies on a more systematic basis has now been taken up. Increased expenditure will be necessary under this heading, especially for protective equipment which at present is very defective.

Such equipment is of a very expensive nature, but must be provided to protect the operators from cancer and other diseases, which inevitably occur if adequate protection is not employed.

### HOSPITAL ESTABLISHMENTS.

New equipment establishments have been compiled and are under print. A grouping system has been adopted to provide some measure of control, and it is hoped that in superseding the present obsolete lists the work of requisitioning and issuing will be reduced. The actual stocks in the provincial hospitals are about L.E. 55,000 short of the establishment now laid down. As this expenditure cannot be sanctioned in addition to the already augmented Stores Estimates, the deficiency can only be made good gradually.

### STORES CATALOGUE.

A new store catalogue containing 5,500 items and comprising twenty-one sections of stores is now in the Press.

When in use, a considerable advance in organization will have been made, as the new arrangement of store classification and improved nomenclature in the catalogue will supersede the present obsolete descriptions taken from the catalogue of 1912. The change will be of a far-reaching nature, affecting every branch of store organization.

### STAFF QUARTERS.

Considerable sums were devoted at the end of this year to the supply of furniture and equipment for staff quarters, and it is anticipated that a further expenditure in this respect will be necessary. Liberal equipment establishments have been drawn up, but in many instances a better class of furniture is desirable.

### STAFF.

In addition to the proposals put forward by the Department further increases have been suggested by the representative of the Ministry of Finance who was delegated to inquire into the staffing question of the Central Stores. As a complement to the comparison of the two store budgets on pages 84–85 a comparison of the Central Stores staff for the years 1915 and 1920 is given below:—

	1915.	No.		1919–1920.	No.
European Office	... ..	6	Orders Section	... ..	4
			Contract Section	... ..	2
			Shipping, etc.	... ..	2
Arabic Office	... ..	20	Personnel and Correspondence Section		2
			Permanent Charge Section	... ..	9
			Ledger Section...	... ..	12
			Archives and Registration	... ..	8
Storekeepers :—			Storekeepers :—		
Four stores.			Six stores.		
Storekeepers	... ..	5	Storekeepers.....	... ..	8
Assistant storekeepers	... ..	3	Assistant storekeepers	... ..	4
		8			12
Labourers, drivers, etc.	... ..	45	Labourers, drivers, etc.	... ..	88
Workshops :—			Workshops :—		
Chief Foreman	... ..	1	Chief Foreman...	... ..	1
Artisans	... ..	45	Clerk of Works	... ..	1
			Artisans	... ..	87
		117			228

### VALUE OF STOCK.

	L.E.
1916	25,859
1919–1920	82,739

2,100 orders have been dealt with.

General equipment and drugs obtained through Sir Arthur Webb not included.

TABLE LXIII.—THREE YEARS' COMPARISON OF MAIN ITEMS.

	1917	1918	1919–1920
Stores bought locally ... .. L.E.	54,000	9,015	8,570 *
"    abroad ... .. "	34,000	88,800	63,530 †
Number of contracts made during the year ... ..	115	146	90,200
Total value of contracts of the Department, including rations, etc. ... .. L.E.	146,772	129,905 ‡	130
Value of contracts for Central Stores :—			214,648 ‡
Equipment ... .. "	44,930	34,378	50,564
Drugs ... .. "	11,280	17,000	37,338
Instruments ... .. "	7,580	10,750	9,000

\* Purchased by limited tenders.

† Purchased by contracts (including L.E. 34,131 for tentage).

‡ Not including supplies obtained through Sir Arthur Webb in London.



TABLE LXIV.—COMPARATIVE STATEMENT OF CONTRACTS AS PLACED BY THE DEPARTMENT  
IN 1917, 1918, AND 1919-1920.

NATURE OF CONTRACT.	RATES.						TOTAL AMOUNTS.		
	1917		1918		1919-1290		1917	1918	1919-1920
	L.E.	M.	L.E.	M.	L.E.	M.	L.E.	L.E.	L.E.
Petroleum ... .. per tin	—	—	—	—	—	—	351	463	714
Crude oil ... .. per kilo.	—	—	—	—	—	—	290	922	1,111
Milk, condensed ... ..	0	048	0	050½	0	050½	684	872	1,054
Meat for Qasr el 'Aini Hospital:—									
Mutton ... .. per kilo.	0	082	0	120	0	105	2,900	5,444	8,967
Beef ... ..	0	062	0	100	0	098½			
Meat for Fever Hospital:—									
Mutton ... ..	0	090	0	120	0	105	5,170	6,262	7,787
Beef ... ..	0	062	0	100	0	098½			
Native bread:—									
Qasr el 'Aini Hospital ... ..	0	022	0	026½	0	025⅔	5,170	6,262	7,787
Fever Hospital ... ..	0	023¾	0	026½	0	025⅔			
<i>Bersim</i> (Scavenging and Water- ing Service) ... .. per qantâr	0	035	—	—	—	—	907	1,102	*2,135
Straw bedding ... .. per ton	1	280	—	—	—	—	350	581	860
<i>Tibn</i> (from State Domains) ... ..	2	380	—	—	—	—	1,933	3,100	5,403
Rabbits for Antirabic Institute each	0	135	0	135	0	132½	148	148	171
Rations for Cairo hospitals ... ..	—	—	—	—	—	—	9,700	16,732	47,690
Rations for provincial hospitals ... ..	—	—	—	—	—	—	33,590	51,463	62,759
Alcohol ... .. per kilo.	0	032½	0	032½	0	032½	1,300	1,463	1,530
Ice ... .. per block	0	018	0	072	0	092½	765	1,510	2,658
Equipment, etc. ... ..	—	—	—	—	—	—	44,930	15,025	97,000
Drugs, ... ..	—	—	—	—	—	—	24,340	17,000	44,300
Coal and cotton seed cakes ... ..	—	—	—	—	—	—	5,080	7,468	2,837
Disinfecting drums ... ..	—	—	—	—	—	—	170	1,590	2,769
Wood ... ..	—	—	—	—	—	—	2,283	1,435	5,360
Tents ... ..	—	—	—	—	—	—	5,807	34,324	16,208

N.B.—These contracts represent only the equipment put up to adjudication locally. The most important part of the equipment provided for in the budget has been obtained through Sir Arthur Webb in London.

TABLE LXV.—COMPARATIVE PRICES OF MAIN ITEMS FOR EQUIPMENT AND DRUGS  
FOR 1917, 1918, AND 1919-1920.

Item No.	DESCRIPTION.	1917		1918		1919-1920	
		L.E.	M.	L.E.	M.	L.E.	M.
80	Bedsteads, 2nd class ... ..	4	350	4	350	5	863
104	Blankets, woollen white ... ..	0	622	1	116	1	116
107	"    "    brown ... ..	0	900	0	702	0	702
133	Boots, shawishes ... ..	0	620	1	050	0	977
228	Cases for mattresses ... ..	0	440	1	483	0	819
416	Drawers, 2nd class ... ..	0	165	0	184	0	184
468	Gallabias, large ... ..	0	265	0	884	0	692
495	Gowns, hospital ... ..	1	100	1	477	3	200
547	Jackets, calico ... ..	0	096	0	308	0	308
706	Mattresses, felt ... ..	0	304	0	360	0	440
866	Pots, copper ... .. per kilo.	0	593	0	593	0	593
981	Sheets, 2nd class ... ..	0	485	0	936	0	951
984	"    draw, thick ... ..	0	290	0	241	0	240
991	Shirts ... ..	0	082	0	250	0	250
1011	Shoes, tamurgis ... ..	0	250	0	345	0	345
1037	Slippers ... ..	0	170	0	235	0	235
1190	Towels, white ... ..	0	130	0	180	0	184
1594	Material No. 3 ... .. per metre	0	077	0	084	0	114
1608	"    No. 17, bed ticking ... ..	0	102	0	237	0	196
1770	Soap, washing ... .. per kilo.	0	042	0	065	0	065

\* Scavenging and Watering Service now cultivate *Bersim* for their own account. Cost price is reckoned at 41 milliemes per qantâr. The quantity purchased for 1920 was 47,443 qantârs.

DRUGS.

TABLE LXVI.—COMPARATIVE PRICES OF DRUGS FOR 1917, 1918, AND 1919-1920.

DESCRIPTION.	1917		1918		1919-1920	
	L.E.	M.	L.E.	M.	L.E.	M.
Aspirin ... .. per kilo.	2	463½	3	150	1	560
Acid, boric ... .. "	0	067	0	128	0	120
" carbolic ... .. "	0	280	0	280	0	132
Alcohol ... .. "	0	032½	0	032½	0	32½
Bismuth carbonate ... .. "	1	597	1	954	2	890
Copper sulphate ... .. "	0	071	0	071	0	294
Glycerine ... .. "	0	115	0	183	0	176
Iodine, pure ... .. "	2	223	2	662	3	500
Magnesium sulphas ... .. "	0	029	0	032	0	39
Castor oil ... .. "	0	153	0	170	0	171
Turpentine ... .. "	0	158	0	277	0	201
Opium ... .. "	5	831	9	032	9	026
Potassium iodide ... .. "	1	680	1	849	1	852
" bromide ... .. "	0	985	1	570	1	570
Quinine sulphate ... .. "	5	331	7	628	8	541
Sodium bicarbonate ... .. "	0	016	0	030	0	26
Vaseline ... .. "	0	107	0	284	0	166
Sodium salicylate ... .. "	1	133	1	082	0	536
Cod liver oil ... .. "	0	246	0	360	0	320
Iodoform ... .. "	2	655	4	980	2	875

Preparations to the value of L.E. 9,077 were made in the Drug Store.

											L.E.
1917	...	...	...	...	...	...	...	...	...	...	5,504
1918	...	...	...	...	...	...	...	...	...	...	5,480
1919	...	...	...	...	...	...	...	...	...	...	9,077

Medicines to the value of L.E. 2,750 were sold in the various dispensaries of the Department, as against L.E. 3,215 for 1918.

STORES.

TABLE LXVII.—STORE TRANSACTIONS.

	REQUISITIONS VOUCHERS.			
	Issued.		Stores received at Headquarters.	
	1918	1919	1918	1919.
Equipment ... ..	9,349	7,586	3,240	3,920
Drugs ... ..	4,371	3,946	653	687
Bûlâq Store ... ..	1,606	1,395	328	305
Surgical instruments ... ..	2,494	2,383	333	426
Kohna Store ... ..	4,972	3,772	2,610	3,763
Forage ... ..	213	184	253	171
Hygienic Institute ... ..	14	28	14	28
TOTAL ... ..	23,019	19,294	7,431	9,300

	1918	1919
Number of charges of permanent stores in the Department ...	255	263
	L.E.	L.E.
Value of stores issued on payment ... ..	16,974	12,563
Value of stocks at annual stock-taking :—		
Instrument Store ... ..	8,909	9,652
Drug Store... ..	39,038	35,415
Equipment Store ... ..	38,099	82,198
Kohna Store ... ..	1,024	1,404
Bûlâq Auxiliary Store ... ..	25,607	33,110
	112,677	161,779



ORGANIZATION.—GENERAL STORES.

Stores.—(Thirteen storekeepers, sixty-six storemen.)

Equipment Permanent Store.  
Equipment Consumable Store.  
Drug Store.

Surgical Instrument Store.  
Kohna Store.

Offices :—

*Ledger Section.*—Eleven clerks.

*Permanent Charges Section.*—Nine clerks.

*Supplies Section.*—Seven clerks.

*Registration and Archives Office.*—Six clerks.

*Claims, Correspondence and Personnel Office.*—Three clerks.

*Workshops.*—One chief foreman, one clerk.

*Ambulance and Transport Section.*

STAFF.

The staff is now as follows :—

*Pensionable Staff :—*

Director of Stores	...	...	...	...	...	...	...	...	...	1
Pharmacist, 2nd class	...	...	...	...	...	...	...	...	...	1
Pharmacists, 4th class	...	...	...	...	...	...	...	...	...	2
Assistant Pharmacists	...	...	...	...	...	...	...	...	...	2
Chief Storekeeper	...	...	...	...	...	...	...	...	...	1
Sous-chefs de Bureau	...	...	...	...	...	...	...	...	...	2
Employees, 1st class...	...	...	...	...	...	...	...	...	...	2
Employee, 2nd class	...	...	...	...	...	...	...	...	...	1
Employees, 3rd class...	...	...	...	...	...	...	...	...	...	3
„ 4th class...	...	...	...	...	...	...	...	...	...	19
Storekeeper, 1st class	...	...	...	...	...	...	...	...	...	1
„ 2nd class	...	...	...	...	...	...	...	...	...	1
Storekeepers, 3rd class	...	...	...	...	...	...	...	...	...	4
„ 4th class	...	...	...	...	...	...	...	...	...	10

*Temporary Staff :—*

Sub-Director of Stores	...	...	...	...	...	...	...	...	...	1
Inspector „	...	...	...	...	...	...	...	...	...	1
Chief Foreman	...	...	...	...	...	...	...	...	...	1
Employees	...	...	...	...	...	...	...	...	...	11
										— 14

*Hors Cadre Staff :—*

Workmen, instruments workshop	...	...	...	...	...	...	...	...	...	8
Assistant, laboratory	...	...	...	...	...	...	...	...	...	1
Carpenters	...	...	...	...	...	...	...	...	...	23
Blacksmiths	...	...	...	...	...	...	...	...	...	14
Fitters	...	...	...	...	...	...	...	...	...	4
Tentmakers	...	...	...	...	...	...	...	...	...	9
Tinsmiths	...	...	...	...	...	...	...	...	...	9
Tailors	...	...	...	...	...	...	...	...	...	8
Painters	...	...	...	...	...	...	...	...	...	16
Shawîshes	...	...	...	...	...	...	...	...	...	3
Sâ'is	...	...	...	...	...	...	...	...	...	9
Farrashîn	...	...	...	...	...	...	...	...	...	4
Dispensary servants	...	...	...	...	...	...	...	...	...	26
Drivers and sayses	...	...	...	...	...	...	...	...	...	16
Telephone men	...	...	...	...	...	...	...	...	...	2
Storemen	...	...	...	...	...	...	...	...	...	66
										— 219

Total ... .. 283

WORKSHOPS.

The Workshops dealt with 2,425 requisitions.

The total expenditure was as follows :—

		L.E.	M.
Cost of material	... ..	5,996	062
„ labour	... ..	2,121	482
TOTAL	... ..	8,117	544

The nature of the work done is shown in the following tables :—

TAILORS' SHOP.

*New Work.*

Aprons, <i>tamurgies</i>	... ..	938	Armlets	... ..	20
Operation aprons	... ..	443	Shirts for boys	... ..	300
<i>Gallabîyas, tamurgies</i>	... ..	1,145	Coloured table cloths	... ..	6
Bed sheets	... ..	473	Mosquito nets for children	... ..	30
Flags	... ..	4	Sun caps	... ..	26
Linen trousers	... ..	2	White drills	... ..	62
White jackets	... ..	2	Pillow cases	... ..	327
Veils	... ..	106	Operation towels	... ..	300
Screen covers	... ..	20	Shirts, women's	... ..	616

*Repairs.*

Covers for portable bedsteads	... ..	4	Blankets	... ..	260
Bed sheets	... ..	12	Trousers	... ..	273
Mosquito nets	... ..	34	Jackets	... ..	273
Bags for rat traps	... ..	116			

CARPENTERS' SHOP.

*New Work.*

Screens	... ..	7	Shelves	... ..	17
Poles	... ..	7	<i>Zîr</i> stands	... ..	2
Stretchers	... ..	5	Wedges	... ..	800
Tables	... ..	41	Paper racks	... ..	8
Mallets	... ..	3	Name boards	... ..	80
Bier	... ..	1	Ice chests	... ..	7
Crutches	... ..	414	Bedsteads, wood	... ..	4
Packing cases	... ..	1,700	Cupboards	... ..	33
Splints	... ..	21,540	Frames	... ..	17
Baskets for medicine bottles	... ..	5	Boxes	... ..	1,303
Stands	... ..	5	Chair	... ..	1
Baskets, correspondence	... ..	131			

*Repairs.*

Screens	... ..	32	Wedges	... ..	3
Poles	... ..	47	Paper racks	... ..	2
Stretchers	... ..	59	Name boards	... ..	9
Brooms	... ..	13	Carts	... ..	14
Tables	... ..	105	Filters	... ..	3
Barrels	... ..	60	Ice chests	... ..	16
Mallets	... ..	8	Bedsteads, wood	... ..	67
Racks	... ..	2	Cupboards	... ..	41
Small wooden cases	... ..	415	Frames	... ..	6
Basket for medicine bottles	... ..	1	Boxes, packing	... ..	3,860
Stands	... ..	64	Forms	... ..	35
Baskets	... ..	21	Chairs	... ..	399
Shelves	... ..	10	Boards, diet	... ..	26
Sieve	... ..	1	Scrubbers	... ..	20
Latrine box	... ..	1	Rammers	... ..	2
Choppers, meat	... ..	27	Ladders	... ..	2
Knives	... ..	26			



# SURGICAL SHOP.

## New Work.

Lead discs ... ..	78,000	Blades for the bandage cutting machine	100
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## Repairs.

Stamps ... ..	12	Copper pans ... ..	14
Forks ... ..	187	Lux lamps ... ..	4
Spoons ... ..	218	Meat mincing machine ... ..	15
Knives ... ..	16	Saucepans ... ..	22
Tape measures ... ..	3	Primus stoves ... ..	298
Soldering stoves ... ..	7	Table lamps, spirit ... ..	24
Winter stoves, spirit ... ..	7		

# INSTRUMENTS REPAIRING SHOP.

Hypodermic needles ... ..	2,564	Chisels ... ..	75
Suture needles ... ..	83	Guillotines ... ..	6
Perimeters ... ..	22	Hooks ... ..	11
Razors ... ..	333	Amputation knives ... ..	92
Retractors ... ..	5	Bistouries ... ..	77
Amputation saws... ..	21	Cartilage knives ... ..	92
Finger saws ... ..	16	Scalpels ... ..	2,061
P.M. saws ... ..	24	Eye scalpels ... ..	638
Curved scissors ... ..	311	P. M. scalpels ... ..	40
Straight scissors ... ..	1,113	Lancets ... ..	120
Eye scissors ... ..	159	Bronchitis kettles ... ..	2
P.M. scissors... ..	218	Saline apparatus ... ..	1
Speculæ, vaginal ... ..	16	Lithotrites ... ..	2
Speculæ, eye ... ..	17	Milton's apparatus ... ..	4
Autoclaves ... ..	24	Rubber bandages ... ..	4
Instrument sterilizers... ..	18	Spirit lamp for sterilizers... ..	4
Water sterilizers ... ..	18	Evaporating dish ... ..	1
Kettles ... ..	24	Foot bath ... ..	1
Brass syringes ... ..	22	Aluminium cap ... ..	1
Hypodermic syringes ... ..	62	Bottles, dressing tables ... ..	12
Thermo cautery ... ..	11	Grafting sets ... ..	2
Hammers ... ..	26	Platinum loops ... ..	6
Trephines ... ..	8	Dressing basins ... ..	2
Trocars ... ..	16	Needles basin ... ..	1
Water pillows ... ..	7	Exploring electric lamps ... ..	2
Bandage knives ... ..	581	Ophthalmoscope, electric ... ..	3
Mincing knives ... ..	328	Test tube holders ... ..	4
Potain's aspirators ... ..	11	Copper shelves ... ..	6
Electric batteries... ..	30	Macheotomy tubes ... ..	5
Catheters ... ..	94	Thomson splints ... ..	2
Spoons ... ..	35	Arm splints ... ..	2
Probes and directors ... ..	24	Manometer autoclave ... ..	1
Stethoscopes ... ..	17	Brass fringes for the table ... ..	2
Chloroform droppers ... ..	16	Air pump ... ..	1
Somnoform apparatus ... ..	20	Mercure tapes ... ..	3
Artery forceps ... ..	304	Hair clippers ... ..	2
Dressing forceps ... ..	243	Caustic holder ... ..	1
Bone forceps ... ..	53	Snow apparatus ... ..	1
Eye forceps... ..	19	Brass fringe for the type box ... ..	1
Midwifery forceps ... ..	30	Water bath ... ..	1
Tooth forceps ... ..	27	Fracture cages ... ..	2
Mouth gags ... ..	16		

# PAINTERS' SHOP.

Shelves ... ..	58	Stoves ... ..	7
Ice chests ... ..	43	Splints ... ..	31
Pen racks ... ..	2	Crates or baskets... ..	22
Brackets ... ..	3	Machines ... ..	13
Baskets ... ..	168	Doors ... ..	2
Boards ... ..	153	Stands ... ..	101
Handles ... ..	23	Baths ... ..	8
Pulleys ... ..	2	Paper racks ... ..	16
Boilers ... ..	2	Desks ... ..	64

Painters' Shop (*continued*).

Filters ... ..	10	Tent floors ... ..	2
Lanterns ... ..	103	Tin pots ... ..	5
Tins, cleaning ... ..	417	Wire mattresses ... ..	12
Notes, boards ... ..	168	Pails ... ..	3
Cupboards ... ..	77	Kitchen stoves ... ..	4
Boxes ... ..	241	Meat safes ... ..	2
Covers ... ..	201	Benches... ..	3
Boards ... ..	21	Autoclaves ... ..	1
Forms ... ..	55	Poles ... ..	10
Bedsteads ... ..	281	Coal stove ... ..	1
Safes ... ..	2	Shovels ... ..	23
Chairs ... ..	355	Hat racks ... ..	2
Screens ... ..	87	Sterilizers ... ..	3
Stretchers ... ..	15	Mangle ... ..	1
Tables ... ..	237	Wood hut ... ..	1
Axe ... ..	1	Steps ... ..	2
Window ... ..	1	Numbering tents ... ..	1,920
Hooks ... ..	2	Sofa ... ..	1
Cyllin drums ... ..	200	Floors ... ..	5
Iron rods ... ..	150	Carts ... ..	29
Strainers ... ..	2	Barrels ... ..	100
Choppers ... ..	3	Numbering files ... ..	80
Trays ... ..	3	Blotters... ..	8

*Painting of furniture.*

Alexandria Hospital ... ..	2	Damietta Hospital ... ..	1
Mansûrâ Hospital ... ..	1	'Abbâsiya Health Office ... ..	1
Fever Hospital, 'Abbâsiya ... ..	2	Shubra Health Office ... ..	1
Faiyûm Hospital ... ..	1	Lock Hospital, Shubra ... ..	1
Tema Health Office ... ..	1	Darb el Ahmar Health Office ... ..	1
Sohâg Health Office ... ..	1		

BLACKSMITHS' SHOP.

*New Work.*

Blades for bandage cutting machine	50	Instrument tables ... ..	10
Machines for sun blinds ... ..	3	Iron pen rack ... ..	1
Leg-support for midwifery table ... ..	2	Iron rings ... ..	220
Iron splints ... ..	17	Lanas or hooks ... ..	37
Electric baths ... ..	2	Extension apparatus for fractures ... ..	3
Iron stands ... ..	21	Iron rods for bedsteads ... ..	151
Hasps and staples ... ..	168	Basins, water ... ..	1
Instrument cupboards ... ..	6	Keys ... ..	13
Iron brackets ... ..	16	Telephone shelf, movable ... ..	1
Trolleys... ..	8	Unions, iron ... ..	20
Mould ... ..	1	Chimneys, iron ... ..	6
Latches ... ..	2	Bolts and nuts ... ..	12
Hinges ... ..	166	Wire loops for the bed mattresses ... ..	2,800
Bars, iron cross stretcher ... ..	10	Screws ... ..	100
Stove, kitchen ... ..	1	Brass covers ... ..	20
Iron angles ... ..	748	Trolley for carrying food ... ..	1
Operation stools ... ..	2		

*Repairs.*

Tables, iron, travelling ... ..	166	Pumps ... ..	9
Basins stand... ..	109	Iron angles ... ..	32
Bedsteads ... ..	732	Boxes, bound with hasps ... ..	13
Wire mattresses ... ..	182	Splints, iron ... ..	15
Tent ambulances ... ..	52	Boiler ... ..	1
Trolleys... ..	24	Chimneys ... ..	4
Safe ... ..	1	Jet, brass, for the garden hose ... ..	1
Kitchen stoves ... ..	2	Pins for the tent poles ... ..	260



Blacksmiths' Shop.—*Repairs* (continued).

Filters, travelling ... ..	15	Valve for the engine ... ..	1
Instrument tables ... ..	18	Forge ... ..	1
Ironers ... ..	28	Iron angles ... ..	50
Cages for fractures ... ..	18	Electric baths ... ..	3
Axes ... ..	24	Taps ... ..	12
Disinfecting barrels ... ..	46	Mowing machines ... ..	3
Stretchers ... ..	18	Operation tables ... ..	6
Hinges ... ..	95	Leg supports for operation table ...	2
Stands for the ironer ... ..	8	Iron unions ... ..	54
Latches ... ..	12	Leather paper bags ... ..	3
Racks ... ..	12	Irrigator stand ... ..	1
Gulleys ... ..	8	Meat mincing machines ... ..	4
Mangles... ..	2	Cylin drums ... ..	200
Hooks ... ..	300	Bins, dust ... ..	10
Strainer... ..	1	Stands for the fish kettle ... ..	8
Machine for <i>crin végétal</i> ... ..	1	Stoves, coal ... ..	3
Dust barrows ... ..	30	Water barrows ... ..	12
Bandage machines ... ..	2	Locks and keys ... ..	516
Nails ... ..	100	Rubber hose... ..	15

TENTMAKERS' SHOP.

*New Works.*

Canvas covers for the ambulance ...	10	Chair cushions ... ..	48
Sunblinds ... ..	19	Sofa cushions ... ..	20
Cotton mattresses ... ..	20	Sofa mattresses ... ..	10
Cotton pillows ... ..	12	Cushions for <i>Asyûti</i> chair ... ..	24
Cocconut matting ... ..	29	Tent covers ... ..	16
Stretchers, 3rd class ... ..	2	Examination tables ... ..	2
Stretcher covers ... ..	6	Felt covers for zinc bottles ... ..	32
Upholstered chairs ... ..	2	Cover for x-ray apparatus... ..	1

*Repairs.*

Stretchers, ordinary ... ..	148	Umbrellas ... ..	5
Portable chairs ... ..	78	Mats, cocconut ... ..	12
Sun blinds ... ..	15	Rags ... ..	6
Mattress cases ... ..	415	Upholstered ... ..	10
Tent covers, various ... ..	70	Sofas ... ..	3
Tents, various ... ..	206	Wheeled stretchers ... ..	7
Straw mattresses ... ..	372	Operation stretchers ... ..	9
Straw pillows ... ..	446	Pails, canvas ... ..	8
Cotton mattresses ... ..	232	Zinc water bottles ... ..	19
Cotton pillows ... ..	279	Covers for travelling beds ... ..	6
Sofa mattresses ... ..	4	Hose, fire ... ..	1
Sofa cushions ... ..	8	Disinfecting sacks ... ..	74
Chair cushions ... ..	25	Valises for tents ... ..	522
Covers, canvas, ambulance ... ..	7	Leg supports for operation tables ...	8
Leather paper bags ... ..	11	Baskets ... ..	5
Stretchers, 3rd class ... ..	9		

TINSMITHS' SHOP.

*New Work.*

Cuttings, glass ... ..	700	Ice boxes ... ..	3
Wire loops for bedsteads ... ..	3,730	Ice chests ... ..	2
Bed-pan covers ... ..	100	Zinc douches, 10 litres ... ..	3
Zinc boxes ... ..	36	Zîr stands ... ..	2
Nozzles for disinfecting drums ... ..	17	Card boxes ... ..	2
Zinc douches, 1 litre ... ..	16	Boxes for lenses ... ..	1
Tin boxes for gloves ... ..	10	Perimeter cover ... ..	1
Tins with covers ... ..	12		

Tinsmith's Shop (*continued*).

*Repairs.*

Soldering tins ... ..	1,320	Hurricane lamps ... ..	55
Covers for tins ... ..	300	Formalin drums ... ..	20
Milk cans ... ..	253	Ammonium drums ... ..	20
Spirit lamps ... ..	123	Garden pipes ... ..	26
Aluminium boards ... ..	100	Water burrows ... ..	11
Tin boards ... ..	214	Lining carts with zinc ... ..	14
Glass panes, fitting ... ..	181	Ice chests ... ..	27
Cutting wire ... ..	655	Steel pans ... ..	4
Rat traps ... ..	329	Winter stoves ... ..	4
Cylin drums ... ..	200	Primus stoves ... ..	7
Stamping pads ... ..	393	Machine for potatoes ... ..	3
Pannikin dishes ... ..	561	Water cans ... ..	9
Zinc warmers ... ..	132	Zinc basins ... ..	2
Lanterns, H.P. ... ..	99	Coffee kettles ... ..	2
Lamps, H.P. ... ..	95	Pans for fish ... ..	4
Vermorels ... ..	86	Electric baths ... ..	5
Pails ... ..	91	Bed pans ... ..	2
Candlesticks ... ..	93	Meat safes ... ..	6
Nozzles for garden sprays ... ..	50	Foot baths ... ..	10
Zinc cans for latrines ... ..	53	Ice cream machines ... ..	2
Garden sprays ... ..	67	Water bottles, zinc ... ..	5
Pannikin trays ... ..	38	Basins, ice chest ... ..	7
Zinc baths ... ..	27	Kitchen stove ... ..	1
Big spoons ... ..	22	Latrine pails ... ..	5
Strainers, soup ... ..	15	Tables, zinc top ... ..	8
Dressing boxes ... ..	15	Test tube stands ... ..	2
Table lamps, paraffin ... ..	22	Ironer sprays ... ..	4



# IX.—GENERAL.

## 1.—BUDGET.

The Budget for the year April 1, 1919, to March 31, 1920, was fixed at ...	L.E. 674,626
That for 1918 was fixed at ... .. .	„ 520,477
Showing an increase of ... .. .	<u>L.E. 154,149</u>

TABLE LXVIII.—TWO YEARS' COMPARATIVE BUDGETS.

		1919	1918	Increase.	Decrease.
		L.E.	L.E.	L.E.	L.E.
CHAPTER I.—CENTRAL SERVICES, INSPECTORATES, HOSPITALS, ETC.					
Art.	1. Salaries, wages, and allowances...	236,014	199,447	36,567	—
„	2. Transport, transfer, and travelling allowances ... ..	23,101	15,779	7,322	—
„	3. Food ... ..	94,730	70,265	24,465	—
„	4. Forage ... ..	1,676	1,244	432	—
„	5. Rent, water, light, and disposal of sewage ... ..	10,806	18,944	—	8,138
„	6. Books and periodicals ... ..	407	407	—	—
„	7. Telephones and telegrams ... ..	1,687	1,485	202	—
„	8. Petty expenses... ..	3,314	2,402	912	—
„	9. Purchase of animals ... ..	1,235	1,270	—	35
„	10. Free water fountains ... ..	3,000	3,000	—	—
„	11. Stores... ..	189,006	102,802	86,204	—
„	12. Uniforms ... ..	2,787	766	2,021	—
„	13. Upkeep of material and equipment	5,000	4,326	674	—
„	14. Upkeep of motor cars, etc. ... ..	1,735	2,769	—	1,034
„	15. Supplies to Provincial Councils ...	1,000	650	350	—
„	16. Allowances to sanitary barbers ...	485	485	—	—
	Upkeep of buildings ... ..	—	5,928	—	—
	Alteration to buildings ... ..	—	800	—	—
„	17. Disinfecting ships at the ports ...	6,000	6,000	—	—
„	18. Transport of stores ... ..	3,000	2,100	900	—
„	19. Maintenance of temporary lazarets at Gabbary... ..	4,560	4,560	—	—
„	20. Experimental work at the Institutes	300	300	—	—
„	21. Purchase of motor cars ... ..	2,650	780	1,870	—
„	22. Sanitary improvements in mosques	2,500	2,500	—	—
„	23. New works ... ..	9,040	17,001	—	7,961
Total of Chapter I <i>Carried forward</i> ...		604,033	466,010	161,919	17,168

TABLE LXVIII (continued).

	1919	1918	Increase.	Decrease.
	L.E.	L.E.	L.E.	L.E.
<i>Brought forward</i> ...	604,033	466,010	161,919	17,168
CHAPTER II.—SCAVENGING AND WATERING SERVICE.				
Art. 24. Salaries, wages, and allowances ...	29,724	28,310	1,414	—
„ 25. Uniforms ... ..	612	487	125	—
„ 26. Forage ... ..	18,100	12,528	5,572	—
„ 27. Water ... ..	5,877	6,060	—	183
„ 28. Lighting and disposal of sewage ...	100	100	—	—
„ 29. Upkeep and repairs to plant and material ... ..	2,270	2,270	—	—
„ 30. Material ... ..	12,805	9,848	2,957	—
„ 31. Stores, etc., sold to Municipalities, Local Commissions and Provincial Councils ... ..	6,000	5,000	1,000	—
„ 32. Telephones and telegrams ... ..	60	60	—	—
„ 33. Petty expenses... ..	125	100	25	—
„ 34. Purchase of animals ... ..	1,073	1,073	—	—
„ 35. Upkeep of gullies ... ..	1,705	1,705	—	—
Total of Chapter II ... ..	78,451	67,541	11,093	183
To deduct:	682,484	533,551	173,012	17,351
Recoveries for services rendered ... ..	7,858	6,346	—	1,512
TOTAL ... ..	*674,626	†527,205	173,012	18,863
Net increase ... ..	—	—	154,149	

	L.E.
† Original grant ... ..	527,205
Supplementary credits... ..	76,085
	603,290
Deduct :—	
Transfer to Ministry of Public Works (Buildings)	L.E.
Upkeep of buildings ... ..	5,928
Alterations to buildings ... ..	800
	6,728
	596,562
* Original grant ... ..	674,626
Supplementary Credits ... ..	41,391
	716,017

† Further provision for the cost of services rendered to this Department has been made in the budgets of the following Departments :—

	1919	1918
	L.E.	L.E.
Ministry of Finance (Stationery Office) ... ..	Mémoire.	Mémoire.
„ of Communications (Post Office) ... ..	2,385	2,168
Provinces and Governorates (Police)... ..	237	237
Pensions ... ..	12,369	13,607
Ministry of Public Works (Giza and Gezira Pumps)	592	—
„ „ „ (State Buildings Dept.)	76,550	—
	92,133	16,012



TABLE LXIX.—NEW WORKS.

EQUIPMENT FOR NEW BUILDINGS.												1919
												L.E.
‘Abbâsiya Fever Hospital :—												
Extension of Sisters’ home ... ..												200
New quarters for 8 Assistant Nurses and 3 <i>hakîmas</i> ... ..												400*
„ 8 Assistant Medical Officers ... ..												400*
Zagazig Hospital :—												
Nurses’ quarters ... ..												300*
Out-patient Section ... ..												300*
New equipment store... ..												50
Suez Hospital :—												
Two infectious pavilions ... ..												1,000*
New room for coal ... ..												10
Damanhûr Hospital :—												
Out-patient section ... ..												300*
Benha Hospital :—												
Administration block ... ..												300*
Purchase of a new hot water boiler and 2 new washing machines at Qasr el ‘Aini												
Hospital ... ..												270*
Equipment for the Suez Hospital Laboratory ... ..												50
Vaccine Institute equipment ... ..												100*
Initial cost of scavenging and watering new roads ... ..												1,112
Prophylactic measures against cholera ... ..												3,508
Installation of 74 fixed disinfecting stations ... ..												740
TOTAL ... ..												9,040

N.B.—All credits of Scavenging and Watering Service under Chapter II have been transferred to the Ministry of Public Works from June 1, 1919, by Council of Ministers’ Decision of August 24, 1919.

## 2.—STAFF.

TABLE LXX.—PERMANENT EMPLOYEES.

CATEGORY.	1919	1918	CATEGORY.	1919	1918
TECHNICAL.			<i>Brought forward</i> ...	404	359
Director-General... ..	1	1	Assistant Pharmacists ... ..	8	7
Assistant Director-General... ..	—	1	Sanitary Engineer, 2nd class ... ..	1	1
Deputy Director-General ... ..	1	—	„ 3rd „ ... ..	1	1
Directors of Sections ... ..	4	4	Chief Inspector, Scavenging and		
Inspector, Cairo City ... ..	1	1	Watering Service ... ..	1	1
President, Medical Commission ...	1	—	Inspectors, Scavenging and Watering		
Vice-President, Medical Commission	1	—	Service ... ..	2	1
Sub-Directors of Sections ... ..	3	3	Sub-Inspector, Scavenging and Wa-		
Inspectress for Maternity Homes ...	2	2	tering Service ... ..	1	1
Inspectors ... ..	18	9	Inspector of Vidange... ..	1	1
Inspectors, 2nd class ... ..	20	19			
„ 3rd „ ... ..	11	7	ADMINISTRATIVE.		
Director of Technical Institutes... ..	1	1	Director, Administration Service ...	1	1
Sub-Director of Institutes ... ..	1	1	Director of Service ... ..	1	1
Director, Antirabic Institute ... ..	1	—	Sub-Directors of Service ... ..	2	2
Bacteriologists, 2nd „ ... ..	3	3	Secretary ... ..	1	—
„ 3rd „ ... ..	2	2	Chefs de Bureau... ..	2	2
„ 4th „ ... ..	8	8	Sous-Chefs de Bureau ... ..	8	8
Chemists, 2nd class ... ..	3	2	Employees, 1st class ... ..	10	10
„ 3rd „ ... ..	2	2	„ 2nd „ ... ..	24	20
„ 4th „ ... ..	3	3	„ 3rd „ ... ..	58	46
Director, Alexandria Hospital ... ..	1	1	„ 4th „ ... ..	149	128
„ Fever Hospital ... ..	1	1			
Medical Officers, 1st class... ..	1	1	STORES.		
„ 2nd „ ... ..	3	3	Director of Stores ... ..	1	1
„ 3rd „ ... ..	20	9	Assistant Director of Stores ... ..	—	1
„ 4th „ Cat. A ... ..	22	22	Chief Storekeeper ... ..	1	—
„ 4th „ „ B ... ..	199	186	Storekeeper, 1st class ... ..	1	1
Midwives ... ..	44	44	Storekeepers, 2nd „ ... ..	2	2
Chief Inspector of Pharmacies ...	1	1	„ 3rd „ ... ..	7	6
Asst. Chief Inspector of Pharmacies	1	2	„ 4th „ ... ..	27	28
Pharmacists, 2nd class ... ..	2	1			
„ 3rd „ ... ..	6	5			
„ 4th „ ... ..	16	14			
<i>Carried forward</i> ...	404	359	TOTAL ... ..	714	629

\* Transferred to 1920-1921 Budget.

TABLE LXXI.—TEMPORARY EMPLOYEES.

CATEGORY.	1918	1919	CATEGORY.	1918	1919
			<i>Brought forward</i> ...	330	340
Medical Officers ... ..	52	62	Storekeepers ... ..	4	2
Inspectors (Epidemics) ... ..	4	3	Midwives ... ..	8	12
Inspector, provincial clerks ... ..	1	1	Superintendent ... ..	1	1
Engineers ... ..	6	3	Sub-Director of Stores ... ..	—	1
Matrons ... ..	4	8	Inspector of Stores ... ..	—	1
Nursing sisters ... ..	25	37	Food and Nuisance Inspectors ...	—	4
Clerks ... ..	232	220	Electricians ... ..	—	2
Foremen of works ... ..	2	2	Overseers ... ..	—	8
Mechanic ... ..	1	1	Assistant Stable Master ... ..	—	1
Meter inspector ... ..	1	1	Assistant Storekeepers ... ..	—	2
Stable masters .. ...	2	2	Director, Antirabic Institute ... ..	1	—
<i>Carried forward</i> ...	330	340	TOTAL ... ..	344	374

TABLE LXXII.—HORS CADRE STAFF.

CATEGORY.	1918	1919	CATEGORY.	1918	1919
			<i>Brought forward</i> ...	593	733
Chief attendants ... ..	80	93	Disinfectors, 2nd class ... ..	31	35
Male „ ... ..	348	452	Cooks ... ..	45	49
Female „ ... ..	131	148	Printers ... ..	3	3
Assistants, Laboratory, 1st class ...	1	1	Overseers ... ..	35	42
„ „ 2nd „ ...	5	5	Moawens ... ..	34	36
„ „ 3rd „ ...	7	11	Sanitary barbers ... ..	15	26
„ „ 4th „ ...	9	9	Mechanics ... ..	2	2
Disinfectors, 1st class ... ..	12	14	Various categories ... ..	915	955
<i>Carried forward</i> ...	593	733	TOTAL ... ..	1,673	1,881



### 3.—AUTHORIZATIONS TO PRACTISE MEDICINE AND ALLIED PROFESSIONS.

Permits to practise their profession in Egypt were issued during 1919 to seventy-nine doctors, nineteen pharmacists, five assistant pharmacists, three veterinary surgeons, nine midwives, and ten dentists.

According to the present register the statistics of the various professions are as follows :—

Doctors ... ..	2,617
Pharmacists ... ..	929
Assistant pharmacists...	283
Veterinary surgeons ... ..	153
Midwives ... ..	621
Dentists ... ..	185

These figures can only be considered as approximately representing the real state of affairs, and by no means as representing the correct number of persons engaged in the various professions, as the Administration is rarely notified of the decease, departure, or retirement from practise of persons on the register.

The law as it at present stands, allows the Department of Public Health to license the holders of diplomas from any recognized faculty or university to practise in Egypt, but the appreciation of the value of certain of the diplomas presented is found to be exceedingly difficult, and in some cases deliberate fraud has been brought to light. In this respect it may be of interest to quote one or two cases which have presented peculiar features.

An Ottoman Jew, who qualified in medicine at the Constantinople Medical School during the war, was pressed by the Turkish authorities to enter the Turkish Army. He demurred, whereupon his diploma was made out bearing an Osmanli name instead of his real name, and he was mobilized. In due course he arrived in Egypt, and applied for permission to practise his profession; on examining his documents, it was found that the name on his identification papers differed from that on the diploma. After long inquiries the above facts were elicited.

A Persian diploma, stated in the first instance by the Consular authority concerned to be valid, was subsequently stated by the same authority to be not valid.

A diploma issued by the "Anthropological University of St. Louis," Missouri, U.S.A., dated 1896, was submitted to the Consular authority concerned for opinion as to its value. In 1898 it was declared invalid, but on being submitted again in 1903 was stated to be good and to confer on the holder the right to practise medicine in the United States. Finally, in 1916 the same Consular authority stated that the institution in question was fraudulent, and had been closed since 1885. The diploma about which all the discussion had taken place had therefore been issued eleven years after the closure of the institution referred to. The person presenting the diploma—a European—was prosecuted for fraud, but his Consular authority dismissed the case on the ground of insufficient proof.

Other cases have occurred in which the original name on a diploma has been changed after the death of its owner by the person into whose possession it has come, with the object of converting the diploma to his own use and obtaining permission to practise as a doctor on the strength of it.

Again, as a result of the peculiar conditions arising from the state of war, members of the various professions under notice, refugees from their own countries, have been unable to produce their original diplomas or other necessary documents, but have been able to prove that they are fully and properly qualified. In these cases the Administration has granted temporary permits to practise, with the proviso that the original documents must be produced as soon as the state of affairs allows, otherwise the permit to practise will be withdrawn.

The new law on the practice of dentistry, which is on the point of being promulgated, gives power to the Administration to insist that the holders of doubtful diplomas who apply for permits to practise should submit to an examination by a Board of Examiners appointed by the State. It is intended to insert the same powers in the projected new laws on the practice of medicine, midwifery, chemistry, and pharmacy.





4.—LEGAL.

The following enactments, bearing on the work of the Department, were published in 1919 :—

Three *arrêtés* making additions to the list of *Etablissements Incommodes, Insalubres et Dangereux* :—

(1) Class I, Category A :—

(a) *Arrêté* of June 18, 1919, *re* establishments for the preparation and preservation of meat.

(b) *Arrêté* of August 7, 1919, *re* establishments for scutching of flax and hemp.

(2) Class II, Category A :—

*Arrêté* of February 19, 1919, *re* establishments for rag teasing and rope factories.

*Arrêté* of February 12, 1919, adding Influenza to the schedule annexed to Law No. 15 of 1912, prescribing prophylactic measures against infectious diseases.

*Arrêté* of June 22, 1919, stating that the term typhoid fever includes all the diseases of this group and especially paratyphoid A and B.

*Arrêté* of December 11, 1919, instituting the Board of Health.

The following table shows the number of prosecutions undertaken for offences against public health laws and regulations, with the results obtained.

TABLE LXXIV.—LIST OF CONTRAVENTIONS AGAINST PUBLIC HEALTH LEGISLATION DURING 1919.

NAME OF LAW.	Cairo.	Port Said.	Ismailia.	Damietta.	Suez.	Giza.	Faiyum.	Beni Suef	Minya.	Asyut.	Girga.	Qena.	Aswan.	Qalyubia.	Gharbiya.	Mindifiya.	Sharqiya.	Dagahliya.	Behaira.	TOTAL. 1919	TOTAL 1918
<i>Vidange and depotoirs. Arrêté of November 8, 1886, modified by Arrêté of June 2, 1910 ... ..</i>	312	168	—	2	6	—	—	—	1	—	—	—	—	6	54	—	2	110	3	664	871
<i>Practice of medicine and its branches. Arrête of June 13, 1891... ..</i>	21	2	—	8	2	3	—	3	55	147	1	3	3	1	6	6	4	12	6	283	85
<i>Vaccination. Decree of December 17, 1890, modified by Decree of August 6, 1897, and by Law No. 9, 1917 ...</i>	286	25	14	5	1	38	61	22	4	—	80	117	38	27	256	167	96	110	105	1,452	1,466
<i>Enclosure of waste lands. Arrêté of June 15, 1893 ...</i>	5	—	—	—	—	—	—	—	—	—	4	—	1	2	—	—	8	—	—	20	10
<b>CEMETERIES :—</b>																					
<i>Inhumation, exhumation, and transport of bodies abroad. Regulations of September 15, 1876, and March 26 and October 30, 1877 ... ..</i>	3	—	—	—	3	—	12	—	—	—	—	—	—	4	3	—	—	4	—	29	27
<i>Transfer of cemeteries. Decree of January 29, 1894</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	3
<i>Enclosure of cemeteries : unauthorized inhumation. Decree of March 12, 1898 ... ..</i>	—	—	—	—	—	—	—	—	—	5	22	—	—	—	46	3	3	1	—	80	42
<b>PROPHYLACTIC MEASURES :—</b>																					
<i>Permanent and exceptional measures to prevent epidemics. Arrêtés of May 11, 1895, and December 19, 1904</i>	—	—	—	—	—	—	—	—	75	—	—	—	—	—	—	—	—	36	—	111	49
<i>Oysters and shell-fish during epidemics. Arrêté of June 16, 1912 ... ..</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Cholera. Arrêté of October 17, 1895, and supplementary Arrêté of May 30, 1896 ... ..</i>	—	—	—	—	—	—	—	—	43	—	—	—	—	—	—	—	—	—	—	43	1,012
<i>Plague and cholera. Decree of May 27, 1899, modified by Laws No. 3 of February 16, 1911, and No. 10 of April 27, 1913 ... ..</i>	—	—	—	—	1	—	11	—	13	35	—	—	389	47	—	—	—	—	—	496	175
<i>Disinfection of houses during epidemics. Arrêtés of May 23 and June 26, 1901 ... ..</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Passenger control in case of cholera abroad. Arrêté of January 21, 1911. Law No. 3 of February 1918</i>	61	39	55	23	—	167	436	184	241	177	622	769	—	70	977	312	233	236	84	4,686	5,140









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